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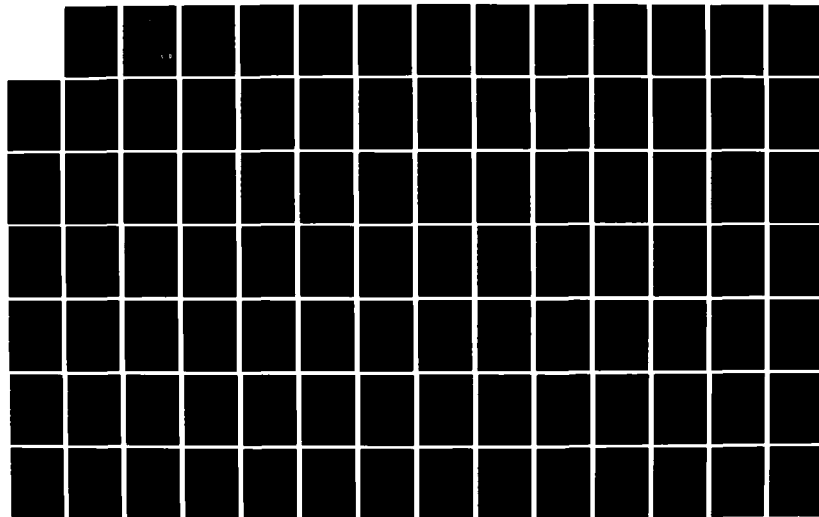
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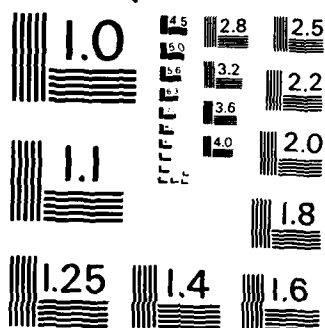
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STRATEGIC PLANNING WITHIN
WEAPON SYSTEM PROGRAM OFFICES AT
AERONAUTICAL SYSTEMS DIVISION

THESIS

Lori A. Corey
Captain, USAF

AFIT/GSM/LSY/85S-7

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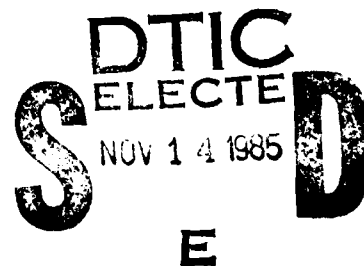
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STRATEGIC PLANNING WITHIN
WEAPON SYSTEM PROGRAM OFFICES AT
AERONAUTICAL SYSTEMS DIVISION

THESIS

Presented to the Faculty
of the School of Systems And Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Systems Management

Lori A. Corey, B.S.
Captain, USAF

September 1985

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Preface

The purpose of this research was to characterize the strategic (or long range) planning style used by system program office (SPO) personnel. Managers, engineers, logisticians and program controllers at Aeronautical Systems Division (ASD) were questioned on various areas of planning.

Formal strategic planning is done at Air Force Headquarters **across** all Air Force programs, but formal strategic planning has not become a regular part of management **within** individual programs. Although formal strategic planning has been tied to success for civilian companies, I make no statement supporting, or contradicting, a need to do formal strategic planning in the SPO. The data is presented in a straight forward fashion leaving the reader to make his/her conclusions about the effectiveness of the SPOs' planning style.

As indicated in the title, the target population was limited to SPOs at ASD. The Deputy for Development Planning (ASD/XR) was not included because the focus of this research was strategic planning within programs.

For the readers convenience, acronyms and definitions are compiled in Appendix A.

In performing the research and writing this thesis I have had a great deal of help from others. I have appreciated the patience, encouragement and friendship of my faculty advisor, Major Ron Hitzelberger. I am also indebted

to Mr. Dyke McCarty for his belief in my writing skills,
despite the fog that engulfed this topic from time to time.
A word of thanks is owed to Mary Daley, a friend who always
understood and always challenged me to do my best, even when
I would have been satisfied with less. Finally, I wish to
thank my family and my God--without their love and strength
it would have been impossible.

Lori A. Corey

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Abstract

This investigation focused on the strategic (or long range) planning style of system program office (SPO) personnel at Aeronautical Systems Division (ASD), Air Force Systems Command (AFSC). The research was accomplished through questionnaires and interviews. The objective was to collect data to identify strategic planning approaches used in the SPO, to assess the existence and familiarity of the SPO with plans required by regulations, to identify benefits and difficulties associated with strategic planning, and to collect information on the perceived usefulness of strategic planning to system acquisition. The sample population included managers, engineers, logisticians and program controllers holding the leadership positions for 27 different programs.

The research indicated that separate, distinguishable groups solely responsible for strategic planning were the exception and not the rule. The understanding of where strategic planning was accomplished for the programs varied from person to person.

Specific portions of the planning process were investigated. A formal approach was followed for the economic analysis, the definition of objectives and the

allocation of funds. An informal approach was followed for the requirements analysis, political analysis, threat analysis, organizational analysis, consideration of objectives prior to plan development, allocation of manpower, organizational structure, alternative courses of action, testing of planning assumptions, and testing of plans. Additionally, the research indicated that few of the plans required by regulations received wide application.

More efficient resource allocation and better quality decision-making were the most common benefits of planning. Almost all of the interviewees stated that most of the formal program office plans have received little use after being developed, yet, the benefit of the plan was the experience gained through putting the plan together. The top ranked difficulties associated with long range planning were insufficient time, unpredictable political environment, inadequately defined objective and inexperienced managers.

The research data indicated that long range planning has been useful to the program office. Existing SPO plans have helped the respondents perform their job better, while the lack of certain types of plans have had either no effect or a negative effect. By a slight majority, the sample population support increased attention to long range planning in their SPO.

STRATEGIC PLANNING WITHIN
WEAPON SYSTEM PROGRAM OFFICES AT
AERONAUTICAL SYSTEMS DIVISION

I. Problem Definition

General Issue

The United States Constitution states that the Congress is to provide for the common defense and general welfare of the United States and that the President recommends to Congress such measures as he shall judge necessary and expedient. The role of the Air Force in support of the President has been to recommend those plans, programs and budgets which are necessary and expedient for the common defense. Strategic planning, "the process of deciding on a course of government action" (10:26), is the focus of this research study.

"Nowadays, planning is a term that enjoys universal respect and admiration" (7:20). At Air Force Headquarters formal strategic planning is done across all Air Force programs, but formal strategic planning has not become a regular part of management within individual programs. The approach to strategic planning varies from program office to program office and understanding the role of strategic planning varies from person to person. "It is precisely because of these differences that the strategic planning 'system' that exists within the DOD today, fails to 'stretch' from the top-level strategic planners down

through the missions and functions to the R&D technical planners" (7:21). Thus, the planners in the system program office (SPO) are not always in concert with the approach of the top-level strategic planners. "... (M)uch work needs to be done in developing a good conceptual understanding of strategic long-range planning ... its importance is not always obvious" (12:68-69).

Problem Statement

This thesis took a step toward understanding the role of strategic planning within weapon system acquisition. The goal of the research project was to identify the status of strategic planning in the SPO. Additionally, information was collected from program offices on the use of plans required by regulation, the pros and cons of strategic planning, and the perceived usefulness of strategic planning within the SPO.

Research Questions

- (1) Do the individual SPOs have a separate, distinguishable group responsible for planning?
- (2) Is formal long range planning being done by the SPOs?
- (3) Do the SPOs use the long range planning tools which are outlined in the regulations?
- (4) What are the pros and cons associated with long range planning?

(5) What is the perceived usefulness of long range planning?

Background

Strategic Planning Defined. Peter F. Drucker, well-known management theorist, states that the first role of management is

the task of thinking through the mission of the business, that is of asking the question "what is our business and what should it be?" This leads to the setting of objectives, the development of strategies and plans, and the making of today's decisions for tomorrow's results. This clearly can be done only by an organ of the business that can see the entire business; that can make decisions that affect the entire business; that can balance objectives and the needs of today against the needs of tomorrow; and that can allocate resources of men and money to key results [6:611].

Drucker has succinctly summarized the strategic planning process. It is not separate from the other management functions such as organizing, directing, motivating and controlling (15:4-6). "Strategic planning is inextricably interwoven into the fabric of management" (15:3).

Strategic Planning Approaches. Because of the nature of strategic planning it is difficult to address every possible approach. For ease of presentation, three broad approaches have been selected for discussion--reactive strategic planning, intuitive-anticipatory strategic planning and formal strategic planning. Each approach has

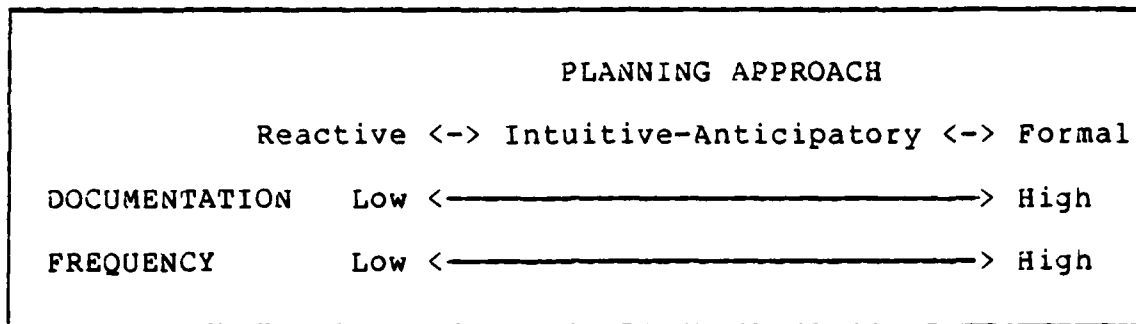


Figure 1. The Planning Continuum

some overlapping characteristics as well as unique attributes. The most dominant features which distinguish the approaches are the amount of documentation and the frequency/regularity of the planning cycle. Figure 1 summarizes the planning approaches as part of a continuum. Each approach is discussed in the following paragraphs.

Reactive Strategic Planning. The first approach is the reactive approach to strategic planning--a lack of purposeful, pre-planned strategic planning. This would be characterized by the organization reacting to outside influences as they occur. There is no planning group and no documented plan.

Intuitive-Anticipatory Strategic Planning. The intuitive-anticipatory approach and the formal approach are pro-active concepts of strategic planning. The intuitive-anticipatory plan is typically the result of a manager's quick evaluation in a short time-span. It is often, but not necessarily, a set of written plans based on experience,

judgment and thinking (14:92). Although this informal approach is subjective, it has been successful for some managers and should not be considered an ineffective approach. According to Ansoff, the situations in which the use of the intuitive-anticipatory approach is effective are as follows:

- (i) When issues develop slowly enough to permit a reactive or a decisive response.
- (ii) When incidence of issues is infrequent enough so that a conflict of issue priorities does not arise.
- (iii) When an issue is "local" and does not affect other issues, or parts of the firm, other than the one in which the issue is being treated.
- (iv) When the underlying evolutionary thrust of the firm's development will meet the objectives of the firm [3:462].

No organization, however, can be assured of having the right situation and the able manager all the time (15:9). This brings out the strength of the next strategic planning approach.

Formal Strategic Planning. Formal strategic planning is a dynamic, continuous process that links all organizational planning together and documents alternative courses of action (15:-15). The outcome of this process is the combined experience, judgment and thinking of each organizational unit. In other words, "formal strategic planning is an effort [by the entire organization] to duplicate what goes on in the mind of a brilliant intuitive planner" (15:10).

A 1970 study by Thune and House on strategic planning in industry documented a positive relationship between formal strategic planning and successful performance (X). Organizations using formal strategic planning outperformed organizations using informal planning. The study tracked sales, return on common equity, return on total capital employed, earnings per share, and stock prices for periods of seven to fifteen years. Within the more successful organizations, improved performance was correlated with to the inception of formal strategic planning. Thune and House also pointed out that "it would probably be naive to conclude that formal planning is the sole cause of the successful performance of the firms studied" (16:8). Oftentimes, formal planning is introduced with other modern management policies. Thus, formal planning is one of several characteristics in the successful organization (16).

Now that strategic planning has been defined and has been identified as a key contributor to organizational success, the next step is to present the strategic planning phases.

Strategic Planning Phases. Conceptually, all strategic planning approaches have the same basic elements. Different authors choose varying terminology and presentations, but the elements in Figure 2 are a good representation of the phases involved in strategic planning (13; 15:17).

PLANNING PREMISE:	Environmental Analysis Organizational Analysis Data Base Evaluation
PLAN FORMULATION:	Define Objectives Develop Strategies Develop Comprehensive Written Plan
IMPLEMENTATION & CONTROL:	Implementation Control

Figure 2. The Phases of Strategic Planning

Due to the size and diversity of the government, formal planning in the government is extremely complex (10:xi). Better planning in the government can improve performance (10:x). Two concepts underline the value of formal planning in the government.

First is the belief that better planning leads to more rational decision making and better government policies and programs; and second, that better government policies provide an improved environment for ... business, labor, agriculture, and the consumer [10:viii].

Figure 3 is an expansion of the planning phases into a model applicable to Air Force system program offices. The major headings in each block are from a model developed by George A. Steiner, a leading management thinker (13; 15:17). Each step of Steiner's process model was adapted to the Air Force and elaborated within the block (13).

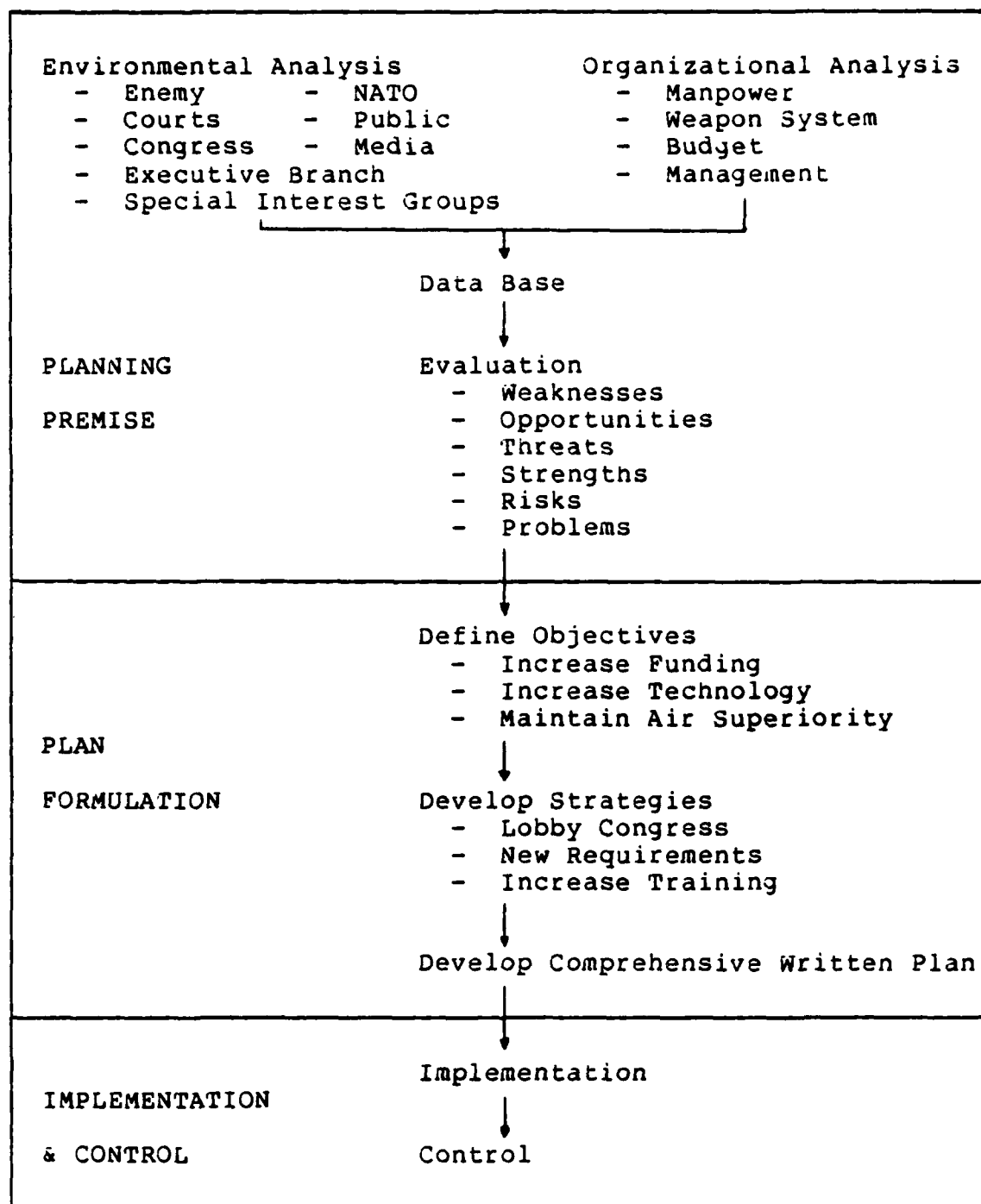


Figure 3. Steiner's Strategic Planning Model
As Adapted to the Air Force

Planning Premises. During this phase the strategic planning philosophy is developed and disseminated within the organization. The planning premises are those data which are inputs to the development of the plan itself. The analysis of the environment, the organization and the data base are extremely broad and the scope should include only the elements most relevant to the organization (15:18-20).

The evaluation block "is sometimes called the WOTS UP analysis, an acronym for weaknesses, opportunities, threats, and strengths underlying planning" (15:19). This is a crucial step of the planning premises process. A good WOTS UP analysis has high payoffs (15:19-20).

Plan Formulation. Defining objectives gives direction to the process and establishes the framework for evaluating the success of the strategic plan (15:20-21). The ability of management to clearly and precisely state the objectives and its meaning is the cornerstone of a successful strategy (17:112).

Developing the strategies and documenting them is the most fundamental step of the formal planning process. Every concern of the organization should be addressed in developing the course of action which will meet the objectives (15:20-21).

Implementation and Control. This planning phase is putting the strategies into action and measuring their

success in reaching the objectives. The control process is then involved in reshaping the planning premises. Thus, the process is cyclical (15:21).

Although strategic planning is a key task of management, there is no one best way to organize the planning process. Each step of the model requires the transfer of information (15:21-22). The plan should solicit inputs from as many managers as possible and include as much relevant data as can be gathered (10:44). Although the model flows from top to bottom, in practice it is iterative. Additionally, the application of the model is a complex task. The organization introducing formal strategic planning should go through the process several times, and in increasing detail. Trying to incorporate all of the information in the first iteration will be frustrating and likely end in failure (15:22).

Strategic Planning in the Air Force. Steiner's planning model is analogous to the Planning, Programming, and Budgeting System (PPBS) of the Department of Defense (DOD). PPBS is the strategic planning tool used by the DOD to establish, maintain and revise the Five Year Defense Program (FYDP). The FYDP summarizes the needed forces, manpower, procurement, construction, research and development, and operation and maintenance dollars for the DOD (2:19).

The planning, programming and budgeting phases are analogous to the planning premise, plan formulation, and implementation and control phases, respectively. Planning activities in PPBS include reviews of the enemy's capability, evaluations of the capability of the US forces, highlighting of the critical needs, setting priorities and evaluating risk. Programming is a match of the priorities and the available dollars; it is the plan formulation process. The budget is generated as a result of the planning and programming phases and is documented in the FYDP. The FYDP is the official document that directs the Services in their activities (implementation) and it is the measure of compliance by the Service (control) (2:19).

PPBS is a formal strategic planning system for the DOD and the Air Force. Its scope is across all Air Force activities. Each program office submits inputs to PPBS. Annually, the Program Objective Memorandum (POM) and the Budget Estimate Submittal (BES) begin in the program office and are reviewed up the chain-of-command until formally submitted to the Secretary of Defense. Then during the Congressional approval process, manpower costs compete with operations and maintenance costs, which compete with procurement costs, which compete with R&D costs, etc. The merits of each program are evaluated against the nation's goals. The Congressionally approved defense budget emerges as guidance to the Air Force.

Once a program is approved, what guides the goals and objectives of that program? Direction to the SPO is provided from HQ USAF in the program management directive (PMD). The PMD is a reflection of the Congressionally approved programs as documented in the FYDP. Within individual programs there are policies and standards set to guide the planning of the programs. The person responsible for the day-to-day management of a program in the SPO is the system program director (SPD). The SPD directs the development of the program management plan (PMP). The PMP is "the integrated time-phased tasks and resources required to accomplish the task specified in the PMD and command supplements. ... It is the principle management ... document for the program" (1:A2-2). The PMP is tailored to individual programs and updated as directed by the SPD. The PMP is divided into thirteen sections covering the range of program management areas (Table I) (1:A2-3).

The PMP is updated as necessary during the weapon system development. The development process proceeds through the following stages:

Concept Exploration - identify and explore alternative solutions for the service need (9:B14).

Demonstration/Validation - further definition of selected alternatives(s) (9:22).

Full-Scale Development - the system, including support equipment is designed, developed, fabricated, and tested and documented (9:26).

TABLE I

Management Areas Addressed in the Program Management Plan

Section	Subject
1	Program Summary and Authorization
2	Intelligence
3	Program Management
4	Systems Engineering
5	Test and Evaluation
6	Communications/Electronics
7	Operations
8	Civil Engineering
9	Logistics
10	Manpower and Organization
11	Personnel Training
12	Security
13	Directives Application

Production/Deployment - system is produced for operational use (9:30).

Additional plans, other than the PMP, are used throughout the development process. The remainder of this section reviews the predominant plans.

The Acquisition Plan addresses "all the technical, business, management, and other significant considerations that will control the acquisition" (11:7-2). The plan is ideally prepared in advance of the fiscal year in which contract award is scheduled" (11:7-1). The plan is to be reviewed regularly and revised as the program progresses into new phases.

The System Engineering Management Plan (SEMP) (MIL-STD-499A) is the basis for system engineering of the weapon

system. System engineering performs analyses and simulations to completely define all system requirements, prepares upper level specifications, prepares major interface definition and control documents, and defines a system functional baseline design (5:1-6). The SEMP is initially prepared by the contractor, but undergoes changes as the contractor and buying division negotiate over the details. The SEMP identifies the organizational configuration, functions and responsibilities, management techniques, analyses, trade studies, simulations, technical performance parameters and schedules for the program. MIL-STD-499A (USAF) provides the report guidelines. The SEMP is drafted during the concept exploration phase and usually implemented at the start of full-scale development. Once the system design is finalized (ie, at the critical design review), system engineering activities will normally decrease (5:1-6).

The Test and Evaluation Master Plan (TEMP) is a summary document for the system's test program.

The TEMP shows the rationale for the kind, amount, and schedules of the planned testing. It must relate the T&E effort clearly to technical risks, operational issues and concepts, system performance, reliability, availability, maintainability, logistic requirements, and major decision points [5:14-10].

Department of Defense Directive 5000.3 and Air Force Regulation 80-14 cover the details on the TEMP.

Although logistics issues are addressed from the beginning of concept exploration, the primary documentation of the logistics concepts and criteria are documented in the Integrated Logistics Support Plan (ILSP). The plan includes a summary of system characteristics, a planning process for service/contractor integrated logistics support, and a plan for support (5:18-10). Department of Defense Directive 5000.39 provides guidance for integrated logistics support.

The Configuration Management Plan is a contractor generated plan that outlines the configuration management system. It is not only used as a guide in implementing the system, but also in evaluating the contractor's performance in configuration management. The plan is required either with the proposal for full-scale development or in the early part of full-scale development (5:11-7). Department of Defense Directive 5010.19 covers configuration management.

The Source Selection Plan is the central tool for initiating and conducting the source selection. It should reflect PMD guidance and be prepared well in advance of a planned acquisition action. The plan covers the key source selection organization, the procedure for screening prospective sources, the evaluation and rating methodology, the acquisition strategy and the schedule. Source selection continues throughout the life of a research and development program (4).

II. Methodology

Introduction

This chapter outlines the specific methods used to evaluate strategic planning within the system program offices in Aeronautical Systems Division. The research methodology was designed to answer the five research questions in Chapter I of this thesis. Figure 4 is a flow chart of the research methodology which assists in understanding this chapter.

The initial step was to formulate a concise statement of the research problem. A literature review of strategic planning was accomplished. To aid in understanding strategic planning, a model was selected and adapted to system acquisition. The Air Force acquisition cycles were reviewed along with the plans used during system development.

Next, the research questions were organized into a questionnaire. The questionnaire was pretested and revised. The research data was gathered from responses to the questionnaire and from interviews with SPO personnel.

The current status of strategic planning within the SPO was summarized. The degree of formal planning used in the SPOs was summarized in terms of frequency of a specific planning activity and the documentation of that activity. A statistical analysis was run to look for relationships between planning approaches and the program variables.

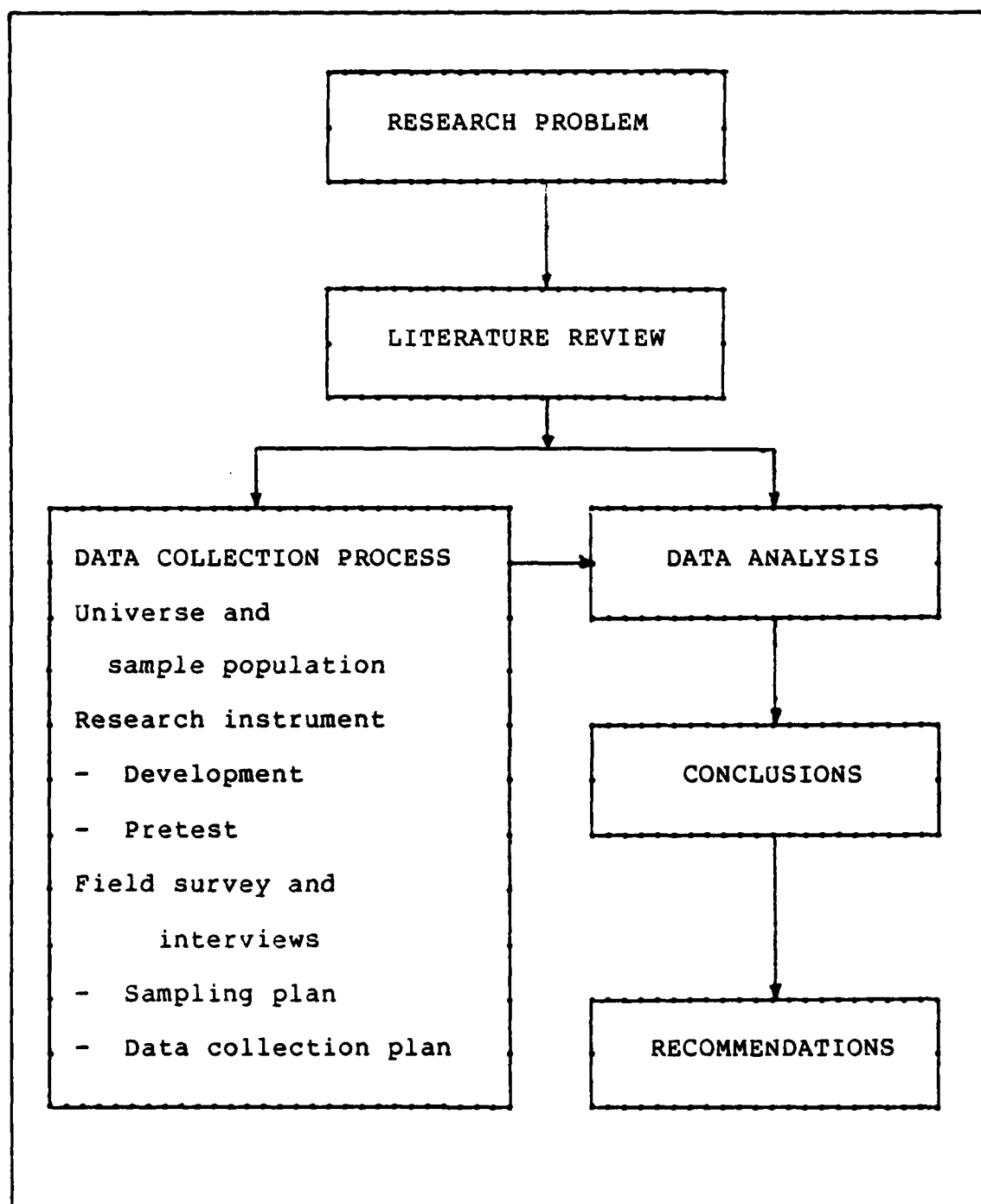


Figure 4. The Research Flow Process

The existence of management plans and familiarity of the SPO with management plans was summarized, as were the pros and cons of strategic management. Finally, the perceived usefulness of strategic planning to the SPO was summarized.

Universe and Sample Population

Air Force Systems Command (AFSC) was the statistical universe. Aeronautical Systems Division (ASD), a product division for AFSC, was the target population within the universe. The program offices are listed with the appropriate two- or three-letter symbol in Table II, per the ASD organizational chart dated April 1985.

Note: The term system program office (SPO) has two different connotations within ASD. Many individuals view only the two-letter organizations, or Deputy, as SPOs. The ASD organizational chart, on the other hand, indicates SPOs at both the two- and three-letter organization, as listed above. The reference to SPOs in this thesis is in agreement with the ASD organizational chart, dated January 85.

Research Instrument

Development. The background information in Chapter I established the range of strategic planning approaches. The background provided the basis for formation of the test instrument -- a questionnaire. The questionnaire was designed to characterize the strategic planning approach

TABLE II

System Program Offices In
Aeronautical Systems Division

Office	Symbol
Life Support SPO	AES
Support Equipment SPO	AEG
PRAM SPO	AEM
Combat Identification SPO	AEI
Rescue and Special Operations SPO	AFX
Test and Commercial Programs SPO	AFT
Tanker System SPO	AFY
C-5B SPO	AFH
C-17A SPO	AFW
Combat Talon SPO	AFZ
T-46A SPO	AFG
B-1B SPO	Bl
Defense Suppression SPO	RWJ
Strike SPO	RWN
Reconnaissance SPO	RWQ
Electronic Warfare SPO	RWW
F-15 SPO	TAF
Fighter Attack SPO	TAA
Maverick Missile SPO	TAM
Advanced Tactical Fighter SPO	TAS
F-16 SPO	YP
Strategic and AI Simulator SPO	YWS
Tactical and Trainer Simulator SPO	YWF
Air Launch Cruise Missile SPO	YYA
B-52 Modernization SPO	YYH
Advanced Cruise Missile SPO	YYR
FB-111 Modernization SPO	YYM
New Engine SPO	YZM
Air Launch and Trainer Engine SPO	YZA
Tactical Engine SPO	YZF
Strategic Engine SPO	YZY
Advanced Tactical Engine SPO	YZS

used in the SPO, to assess the existence and familiarity of the SPO with strategic plans, to identify benefits and difficulties associated with strategic planning, to collect information on the perceived usefulness of strategic planning to system acquisition, and to collect demographic information on the respondent and the SPO.

The terms strategic planning and long range planning were used interchangeably in this research. Strategic planning in the military can refer to either strategies to win wars or to execute plans. Thus, the term long range planning was used when collecting and analyzing the research data.

Because the sample population included basket-SPOs (a multi-system program office), the basket-SPO respondents were first asked to select one weapon system program and answer the questions for that program only.

Do the individual SPOs have a separate, distinguishable group responsible for planning? Question 2 had the respondents identify how long range planning is accomplished in their program office. The response was used to determine the number of program offices that use a specialized long range planning group. The possible responses included (1) line - separate plans within each directorate, (2) staff - unified plans for all functional offices, (3) combination of line and staff, (4) separate, specialized long range planning group, (5) long range planning is done outside of the program office, and (6) other.

Do the SPOs use the long range planning tools which are outlined in the regulations? Since many plans are required by regulation, question 27 was designed to survey the existence of and familiarity with the regulated plans. The plans included the Program Management Plan, Acquisition

Plan, System Engineering Management Plan, Test and Evaluation Master Plan, Integrated Logistics Support Plan, Configuration Management Plan, and Source Selection Plan. Additional space was left for the respondent to list other plans used by the program office. Questions 3 and 4 asked about the type of involvement in the plan preparation of functional chiefs and of workers below the functional chiefs.

Is formal long range planning being done by the SPOs? Questions 5 through 26 focused on the amount of documentation and the regularity of the planning activity. Questions covered each planning phase. This section of the questionnaire was designed to characterize the actual strategic planning approach of the program office. Table III is an inclusive list of areas covered in questions pertaining to long range planning.

What are the pros and cons associated with long range planning? Questions 28 and 29 provided lists of benefits and difficulties, respectively, of long range planning. Respondents were asked to choose the applicable factors and rank them.

What is the perceived usefulness of long range planning? The perceived usefulness of strategic planning to weapon system acquisition was addressed in questions 30 to 34.

TABLE III

Strategic Planning Areas

Questions covering the planning premise phase
Time period of planning
Office of primary responsibility for planning
Economic environment
User requirements
Political environment
Threat environment
Strengths and weaknesses of functional departments
Questions covering the plan formulation phase
Primary influence over SPO objectives
Agreement by functional chiefs on SPO objectives
Criteria for expanding PMD
Program office's objectives
Funds allocation
Manpower allocation
Change of organizational structure
Alternative courses of action
Testing of planning assumptions
Testing of plans
Questions covering the implementation and control phase
Agreement by the functional chiefs on plans
Use of control/coordination procedures
Timetable for updating plans
Feedback procedures
Plans for changing present approach to planning

The demographic information on the respondent included age, rank, education, experience, and position in SPO. The demographic information on the SPO highlighted acquisition phase, level of program review, and number of personnel.

The objectives of the interview were to review the questionnaire, to clarify any questions, to discuss any related opinions of the respondent and to gather feedback on the structure and content of the questionnaire.

Pretest. The questionnaire was given to students in an Air Force Institute of Technology professional continuing education course for field grade officers in acquisition, SYS 400 Intermediate Program Management. Interviews were scheduled with the pretest respondents to review/clarify the questionnaire and collect the data. Once the questionnaire was answered, comments from the respondents were solicited on questionnaire and interview format. Improvements were made to the questionnaire after each pretest and the questionnaire was then prepared for distribution to the research population.

Field Survey and Interviews

The sample population consisted of personnel in the areas of management, engineering, logistics and program control within system program offices in Aeronautical Systems Division. Every SPO within ASD was surveyed. The initial contact at each program office was made with the project manager's office. This office was chosen first because of the project manager's experience and ability to see the system perspective. The questionnaire was hand delivered and an interview time established. Telephone calls were used to confirm the date/time for the interview. Interviews were expected to last fifteen minutes. Candid comments on strategic planning in the program office were also solicited at the interview. At the conclusion of the interview the respondent was asked to supply contacts within

the program in the areas of engineering, logistics and program control. Questionnaires were then provided to the additional functional offices. The additional questionnaires were returned through distribution to AFIT/LS. As a result, four questionnaires were distributed for each program office and one interview was held for each program office.

Data Analysis

The analysis required recording of the questionnaire responses into a computer data base. The data base consisted of both letters and numbers. The analysis used the Statistical Package for Social Sciences (SPSS). Frequencies were calculated for every response. Crosstabs were used to associate the responses with the specific program office, program phase and functional office.

In order to standardize the evaluation of data gathered on the SPO planning activities, a "planning factor" was developed. The planning factor was used in summarizing the frequency of a planning activity and the type of documentation associated with the activity. Three sub-factors comprised the planning factor. The sub-factors were the percent frequencies for responses supporting the lack of planning, informal planning, and formal planning. The frequencies did not include missing values.

When analyzing the frequency of a planning activity the respondent could choose daily, weekly, monthly, quarterly,

annually, occasionally, at program initiation only, or never. The lack of planning was the percent frequency for the never response. Informal planning, which lacks much structure, corresponds to daily, weekly, occasionally and at program initiation only. Daily and weekly activities were assumed to be informal and to lack formal documentation at the same frequency. With this categorization, informal planning combines the reactive and intuitive-anticipatory approaches discussed in Chapter I. Formal planning was most likely to occur monthly, quarterly or annually. Thus, the planning factor was represented by summing the percent frequencies for the following:

<u>Never</u>	<u>Daily Weekly Occasionally Prog Initiat Only</u>	<u>Monthly Quarterly Annually</u>
No Planning	Informal Planning	Formal Planning

In similar fashion, the planning factor for the questions concerning documentation of the activities were represented by summing the percent frequencies for the following:

<u>Never</u>	<u>Briefings Messages Correspondence Office Instructions Files</u>	<u>Program Reviews Prog Mgt Plan Acquisition Plan Contractual Doc Financial Doc</u>
No Planning	- Informal Planning	- Formal Planning

With planning factors generated for each planning activity, the overall planning style for a phase of planning and for the whole planning process was summarized.

III. Findings

Introduction

This chapter highlights the findings of the research, beginning with a discussion of the sample population. The analysis of each research question is presented independently. Supporting data for following discussion can be found in Appendices C and D. Because confidentiality was granted to the interviewees the data gathered from interviews is not referenced.

Sample Population

Of ASD's 32 program offices, 27 were included in the data base. Five program offices were excluded because of program classification or personnel unavailability. Seven SPOs returned all 4 questionnaires, 11 returned 3 questionnaires, 6 returned 2 questionnaires and 3 returned only 1. Twenty-five percent of the SPOs managed one system while 75% managed several systems. Respondents working on major and non-major programs made up 54% and 46% of the sample population, respectively. Table IV lists the program phases represented in the data base.

There were 84 responses from the 112 questionnaires delivered--a 75% response rate. Eight of the 84 responses were not attributed to a specific program. One logistician returned an extra 4 questionnaires that he had his subordinates complete. Two questionnaires were returned

TABLE IV
Current Phase of Program

Current Phase of Program	Percent Frequency
Concept Exploration	12 %
Concept Exploration and Demonstration/Validation	4
Demonstration/Validation	10
Demonstration/Validation and Full Scale Development	5
Full Scale Development	10
Full Scale Development and Production	23
Production	22
Production and Program Management Responsibility Transfer	13

with incomplete information in which the program was not identified. Two questionnaires were voluntarily completed by individuals in long range planning jobs.

The data base consisted of 30% program managers, 25 percent engineers, 23 percent logisticians and 21% program controllers. Half of the respondent were military officers while the other half were civilians. The ages ranged from 22 to 57, with 21% of the population between the ages of 22 and 34, 63% between 35 and 45, and 16% between 46 and 57. Their experience on the current job ranged from 1 month to 7 years, with the following distribution:

54% with 1 year or less experience,
13% with 1-2 years,
10% with 2-3 years,
6% with 3-4 years,
6% with 4-5 years, and
1% with 7 years.

Total experience within acquisition ranged between 6 months and 25 years with the following distribution:

6% with 1 year or less experience,
13% with 1-2 years,
16% with 2-3 years,
5% with 3-4 years,
5% with 4-5 years,
24% with 5-10 years,
15% with 10-15 years,
12% with 15-20 years, and
4% with 20-25 years.

Twenty-seven percent had operational experience, while 43% have had careers solely in acquisition.

With regard to the respondent's field of highest formal education, 46% indicated management, 26% engineering, 7% science and 4% other. Fifty percent of the sample population graduated from Systems 100, an AFIT continuing education course covering an introduction to acquisition management.

Research Question One

Do the SPOs have a separate, distinguishable group responsible for planning?

Only 6 of the 83 respondents indicated that long range planning was accomplished through a separate, specialized long range planning group. Table V indicates the absolute frequency and percent frequency for the long range planning approaches.

The six respondents who indicated a separate planning group existed in the SPO were all from different SPOs and had coworkers who indicated that a separate planning group was not being used. The six respondents included two people

TABLE V
Long Range Planning Approaches

Category	Absolute Frequency	Percent Frequency
Separate Plans for Each Functional Office	15	18
Unified Plans for All Functional Offices	10	12
Combination of Separate And Unified Plans	39	48
Separate, Specialized Long Range Planning Group	6	7
Long Range Planning Done Outside of SPO	11	14
Other	1	1
Missing Data	1	-
Total	<u>83</u>	<u>100</u>

each from management, engineering and program controllers. The corresponding programs that the respondents represented were in different program phases and at different funding levels.

The interviews did reveal that three SPOs had a separate group performing a strategic planning function. Eight SPOs (three-letter organizations) had a strategic planning group at the two-letter level. None of these planning groups at ASD have existed for more than three years--most have been formed in the past year. Of the surveyed respondents in those eleven organizations, only one respondent (a Director of Program Control) indicated on the questionnaire that the separate planning group existed. Thus, there was an inconsistency in understanding the role

and existence of long range planning groups. The remainder of this section puts forth possible explanations for this inconsistency.

Although popular in industry since the early 1970s, long range planning groups within the Air Force program office are a new idea. None of the planning groups at ASD have existed for more than 3 years--most have been formed in the past year. The long range planning task is extensive and complex. An iterative approach is, typically, taken over several years before the planning process reaches maturity. Thus, it will take some time before the role of long range planning groups is understood and accepted by SPO personnel.

Long range planning in the Air Force has historically been across programs. That is, for example, across the tactical area and not within a specific tactical weapon system. As long range planning has been introduced into the SPO, the planning group may have duplicated the broad area planning typical of other long range planning groups at higher organizational levels in the Air Force. Thus, the individual programs may have remained unaffected by the long range planning group.

Another reason for inconsistent perceptions on the role of long range planning lies with the variety of meanings attributed to the term. "What is your definition of long range planning?" was consistently asked by the SPO people.

A definition was not provided; the term was to be used within each individual's concept of long range planning. In one instance, the respondent viewed the long range planning group in his office to be strictly an idea generator, and, therefore, not really the focus for long range planning in the SPO.

The 11 responses indicating that long range planning was done outside of SPO were from 9 different program offices. Twenty-one percent of these responses were program managers who cited long range planning offices at ASD, HQ AFSC and HQ USAF as the responsible organization. For the other functional offices, 14% of the engineers, 12% of the program controllers and 9% of the logisticians chose the response. These respondents all indicated that there are no plans for changing their approach to long range planning and that, on average, 9% of their time was spent in planning for the program. No correlation was found between these responses and the program phase.

Research Question Two

Is formal long range planning being done by the SPOs?

Before analyzing the data on the SPOs long range planning process, two background questions were summarized. The first background question established the period of time covered by the SPO plans. As Figure 5 outlines, the periods of times that the plans covered were evenly distributed, with the exception of the 1-3 year time period receiving 32%

TABLE VI
Planning Period By Program Phase

Program Phase	Time Period			
	0-1	1-3	3-5	5+
Concept Exploration	- %	20 %	20 %	60 %
-----	-----	-----	-----	-----
Concept Exploration & Demonstration/Validation	50	25	25	-
-----	-----	-----	-----	-----
Demonstration/Validation	14	43	29	14
-----	-----	-----	-----	-----
Demonstration/Validation & Full Scale Development	25	25	25	25
-----	-----	-----	-----	-----
Full Scale Development	40	20	20	20
-----	-----	-----	-----	-----
Full Scale Development & Production	22	33	28	17
-----	-----	-----	-----	-----
Production	47	47	-	6
-----	-----	-----	-----	-----
Prod & PMRT	56	22	22	-

The second background question focused on which office within the SPO was primarily responsible for executing the planning function (Figure 6). The projects/program management office was chosen by 61% of the respondents. Engineering and logistics, with 18% and 12% respectively, were the second and third choices.

The data on the long range planning process focused on the amount of documentation and the regularity of the planning activity. Each planning phase was analyzed individually. Data on the frequency of occurrence for each planning area was kept within the text of this chapter.

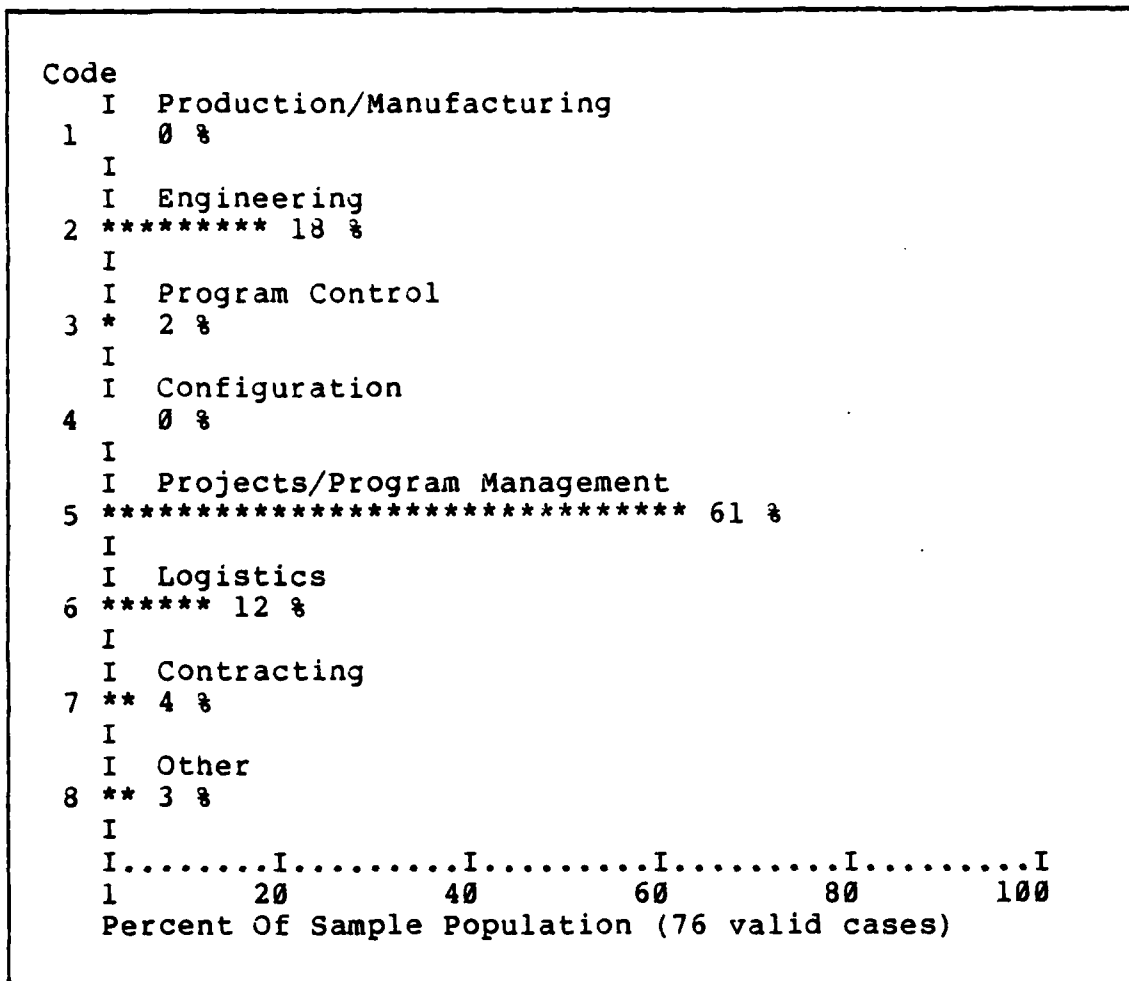


Figure 6. Key Planning Office

Data on the type of documentation for each planning area was consolidated into Appendix C.

Planning Premise Phase. The two key areas of emphasis within the planning premise phase were environmental analysis and organizational analysis. Table VII records the results of questions pertaining to how often a specific environmental analysis was done. The four environmental

TABLE VII
Frequency Of Environmental Analysis

Frequency	Environment			
	Economic	Reqments	Political	Threat
Daily	2 %	5 %	6 %	-
Weekly	11	5	15	-
Monthly	31	10	8	3 %
Quarterly	19	13	8	6
Annually	15	16	5	19
Occasionally	12	36	33	35
Program Initiation Only	2	5	1	13
Never	7	11	24	25
Valid Cases	83	83	83	80
Planning Factor	7-27-65	11-51-39	24-55-21	25-48-28

areas included a detailed analysis of the program's economic environment, an analysis of the possibility of changed user requirements, a detailed analysis of the program's political environment, and an analysis of the possibility of a changed threat environment.

The economic environmental analysis has received the greatest attention, with 64% of the respondents indicating that the analysis was done at least quarterly. By

comparison, the political, threat and requirements analyses were done at least quarterly in 37%, 9% and 33% of the cases, respectively. The economic analysis indicated that 7% never did an economic analysis, 27% did an informal economic analysis and 65% did a formal economic analysis, making the planning factor 7-27-65 (see the discussion of the planning factor in Chapter II or in Appendix A). No trends were discovered to relate the frequency of the economic analysis with the program office, functional office or program phase.

The existence of documentation for economic analysis was indicated by 71% of the sample population. The planning factor for the documentation of the economic analysis was 31-16-53. Fifty-three percent of the respondents had formal documentation of the economic analysis. The key areas of documentation were financial documents and supporting materials for program reviews.

The planning factor for the analysis of user requirements was 11-51-39. An informal planning style was common 51% of the time while a formal style was common 39% of the time. The planning factor of 31-20-49 for the documentation of the user requirements indicated that formal documentation was most common (49%).

The predominant responses to the question on analysis of the political environment were occasionally and never, at 33% and 24% of the sample population, respectively. The

planning factor for the political analysis was 24-55-21, indicating that the predominant planning style was informal. The planning factor for the documentation of the political environment was 79-11-10. Seventy-nine percent of the respondents indicated that there was no documentation. The 21% that indicated documentation of the political analysis identified program reviews, briefings, messages and correspondence as the format.

The analysis of the possibility of a changed threat environment occurred occasionally for 35% of the sample population. Annual threat analysis was indicated by 19% of the sample population. Twenty-five percent never did the analysis. The threat planning factor was 25-48-28. Forty-eight percent of the sample had an informal planning style for the threat analysis. The planning factor for the documentation of the threat analysis was 33-11-56, indicating that when the threat analysis was done, there was formal documentation of the results.

In order to analyze the trend in responses for all four questions, Figure 7 was generated. The percent of the sample population was calculated for the 81 possible combinations of planning factors for the economic, requirements, political and threat analysis. No planning for environmental factors was indicated by 3%, informal planning by 11% and formal planning by 7%. Thus, 21% of the sample population had a consistent approach to all areas of the environmental analysis.

		Political								
		1			2			3		
		Threat			Threat			Threat		
		1	2	3	1	2	3	1	2	3
E C O N O M I C	1	R	1	3	1					
		E	2		1	1				
		Q	3		1		1			
	2	R	1		1		1			
		E	2			11	3		3	1
		Q	3	1		3	6	1		1
	3	R	1	4		1		1		
		E	2	3	3	7	15	2	1	
		Q	3	2	3	2	2	4	1	2

Key: 1 - Percent Indicating No Planning
2 - Percent Indicating Informal Planning
3 - Percent Indicating Formal Planning

Figure 7. Environmental Analyses

The highest frequency of a single category came from the group indicating formal economic analysis and informal analysis in the areas of requirements, politics and threat. This 15% of the sample population reflects a great importance on economic analysis, yet, recognizes the influence of the other environmental analyses on program life.

```

Code
I
I   Daily
1 ***** 5 %
I
I   Weekly
2 ***** 5 %
I
I   Monthly
3 ***** 13 %
I
I   Quarterly
4 ***** 12 %
I
I   Annually
5 ***** 8 %
I
I   Occasionally
6 ***** 36 %
I
I   Program Initiation Only
7 **** 4 %
I
I   Never
8 ***** 18 %
I
I.....I.....I.....I.....I.....I.....I
      10      20      30      40      50
Percent Of Sample Population (84 valid cases)

```

Figure 8. Organizational Analysis

Organizational analysis, the second key area of emphasis during the planning premise phase, had a planning factor of 18-50-32 (Figure 8). The planning style was predominantly informal. The planning factor for documenting the analysis of the strengths and weaknesses of the functional departments was 66-6-28. No documentation existed for 66% of the sample population. The 28% which did

reference formal documentation indicated the analysis was prepared primarily for program reviews.

Plan Formulation Phase. Two activities comprised the plan formulation phase: definition of objectives and strategy development. Within the area of defining objectives three areas were researched: (1) Primary influence over SPO objectives, (2) Agreement by functional chiefs on SPO objectives, and (3) Criteria for expanding PMD.

The greatest influence over the SPOs objectives, as seen in Figure 9, was with HQ USAF and the system program director (SPD). HQ USAF issued the program management directive and the SPD was responsible for carrying out the directive. Though HQ ASD and HQ AFSC were in the chain of command, they were not seen as key influences over the SPOs objectives. Another group not given as a choice in the questionnaire, but often included in the 15% other category, was the using command. The user generated the need for the system and should, therefore, have an influence over setting the objectives of the SPO. The planning factor for documentation of SPO objectives was 6-6-88, indicating formal documentation, primarily through the PMD and AFSC FORM 56. Functional chiefs did not have the key role in influencing SPO objectives yet they often agreed on the SPOs objectives (Figure 10).

```

Code
I
I   HQ USAF
1 ***** 39 %
I
I   HQ AFSC
2 ***** 10 %
I
I   HQ ASD
3 *** 3 %
I
I   System Program Director
4 ***** 30 %
I
I   Functional Chiefs
5 *** 3 %
I
I   Other
6 ***** 15 %
I
I.....I.....I.....I.....I.....I.....I
  10      20      30      40      50
Percent Of Sample Population (83 valid cases)

```

Figure 9. Greatest Influence In Setting Objectives

```

Code
I
I   Always
1 ***** 11 %
I
I   Often
2 ***** 77 %
I
I   Seldom
3 ***** 10 %
I
I   Never
4 * 2 %
I
I.....I.....I.....I.....I.....I.....I
  1      20      40      60      80      100
Percent Of Sample Population (83 valid cases)

```

Figure 10. Agreement Of Functional Chiefs On Objectives


```

Code
I
I   Impact On Cost
1 ***** 43 %
I
I   Impact On Schedule
2 ***** 8 %
I
I   Impact On Performance
3 ***** 40 %
I
I   Impact On Logistics
4 ***** 9 %
I
I.....I.....I.....I.....I.....I
1      10      20      30      40      50
Percent Of Sample Population (67 valid cases)

```

Figure 11. Criteria For Expanding PMD

When asked to state the key criteria for expanding the PMD several respondents refused to answer on the grounds that expanding the PMD was illegal. The wording of the question would have been better had the question asked for the key criteria for revising the PMD. Nonetheless, 67 of the 84 respondents answered the question, ranking cost and performance issues as the key criteria (Figure 11). With rising publicity over DOD cost overruns and Congressional pressure to cut the military budget it was not surprising to have cost as a key criterion. The performance issue reflected an emphasis on meeting the threat with superior weapon systems. Schedule and logistics issues were secondary reasons for a new PMD.

Strategy development, the second activity in plan formulation, was analyzed with respect to the consideration of objectives, the allocation of funds, the allocation of manpower, the consideration of a changed organizational structure and the development of alternative courses of action. In addition, testing the planning assumptions and the plans themselves was analyzed.

Once objectives were set and agreed upon, they should have been considered prior to developing a strategy to meet the objectives. This consideration took place in the SPO occasionally according to 39% of the respondents (Table VIII). Daily consideration of SPO objectives was also high at 19%. The resulting planning factor was 10-73-17. SPO objectives were informally considered prior to strategy development. The planning factor for documenting was 49-9-42. Forty-nine percent of the sample population never documented the consideration of objectives prior to strategy development. When documentation was identified it was formal documentation, typically the PMP.

Both the allocation of funds and the allocation of manpower, with planning factors of 4-32-64 and 12-34-55, respectively, were predominantly formal. With only 4% and 12% of the sample population indicating that there was no planning for the areas of funds and manpower, respectively, there was formal planning in these areas. The planning factor for documentation of the funds allocation was 17-12-

TABLE VIII
Frequency Of Strategy Development

Frequency	1	2	3	4	5
Daily	19 %	6 %	1 %	- %	21 %
Weekly	5	10	5	-	6
Monthly	6	28	14	1	7
Quarterly	3	20	9	1	5
Annually	8	16	32	9	4
Occasionally	39	15	24	57	40
Program Initiation Only	10	1	4	9	11
Never	10	4	12	23	6
Planning Factor	10-73-17	4-32-64	12-34-55	23-66-11	6-78-16
Valid Cases	79	82	82	84	82
<p>Key: 1 - Consideration of objectives 2 - Allocation of funds 3 - Allocation of manpower 4 - Change in organizational structure 5 - Alternative courses of action</p>					

71 and for documentation of the manpower allocation was 37-24-39. Funds allocations were formally documented according to 71% of the sample population, yet manpower allocations were documented formally according to only 39% of the sample.

The manpower allocations do not have one dominant form of documentation.

Changes to the organizational structure as a result of the plans that have been developed and selected for implementation were approached informally. The planning factor of 23-66-11 supported only a minimal use of formal planning and a moderate use of no planning in this area. The planning factor for the documentation was 54-29-17. Formal documentation was not characteristic of the analysis to change the organizational structure.

The predominant responses to the question on actively pursuing alternative courses of action were occasionally and daily, at 40% and 21% of the sample population, respectively. The planning factor was 23-66-11, indicating that the most common planning style was informal. The planning factor for the documentation of the alternative courses of action was 39-16-45. When documentation did exist, it tended to be formal.

The respondents answers to tests of planning assumptions and to tests of plans was summarized by the planning factors of 27-56-17 and 48-42-10, respectively (Table IX). The testing of assumptions was informal while the testing of plans was split between no tests and an informal tests. The planning factors of 61-11-28 and 74-7-19 for the

TABLE IX
Frequency Of Testing During Strategy Development

Frequency	Testing of	
	Planning Assumptions	Plans
Daily	- 3	1 3
Weekly	5	-
Monthly	10	7
Quarterly	5	-
Annually	2	3
Occasionally	42	34
Program Initiation Only	9	7
Never	27	48
Planning Factor	27-56-17	48-42-10
Valid Cases	79	73

documentation of planning assumptions tests and plan tests, respectively, indicated that documentation was not regularly kept on these tests.

Implementation And Control Phases. With the plans generated, the acceptance of the plans by functional chiefs was key to the success of the plans implementation. As Figure 12 highlights, the functional chiefs often accepted

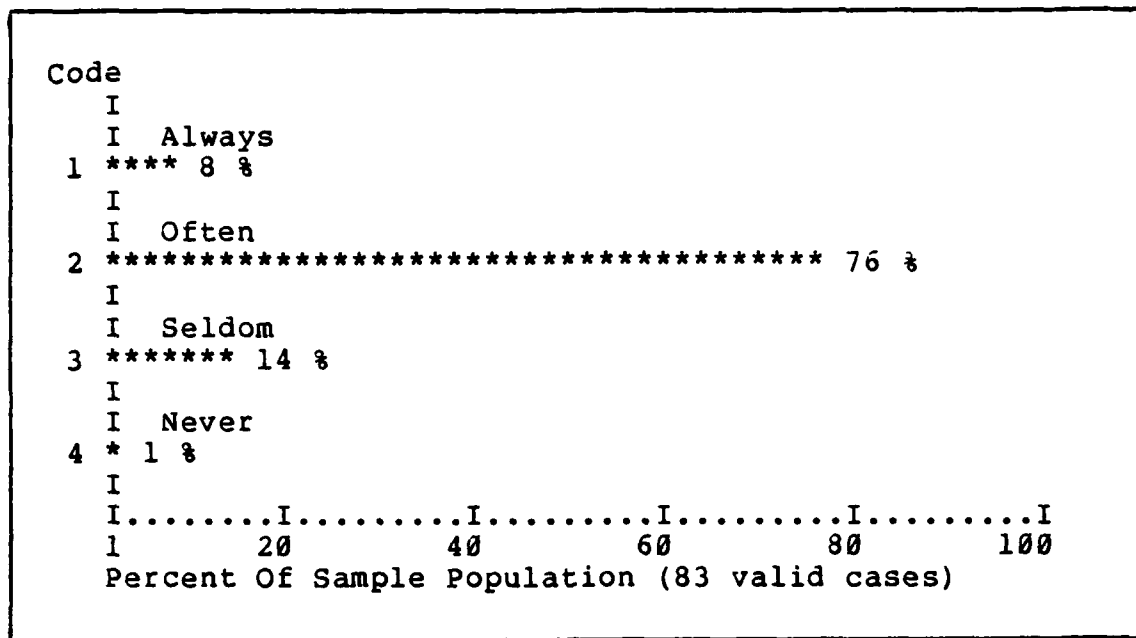


Figure 12. Agreement Of Functional Chiefs On Plans

the plans immediately. Some disagreement was expected and was reflected in few responses for always accepting the plans immediately.

Control of the planning process was measured through the use of control/coordination procedures, the existence of a timetable for updating plans, the existence of feedback procedures and the plans for changing present approach to planning.

Control and coordination procedures were used occasionally with 36% of the sample population and daily with 18% (Figure 13). The planning factor was 9-64-27. An informal style characterized the control and coordination procedures. Documentation of these procedures tended to be

```

Code
I
I   Daily
1 ***** 18 %
I
I   Weekly
2 ***** 6 %
I
I   Monthly
3 ***** 11 %
I
I   Quarterly
4 * 1 %
I
I   Annually
5 ***** 15 %
I
I   Occasionally
6 ***** 36 %
I
I   Program Initiation Only
7 **** 4 %
I
I   Never
8 ***** 9 %
I
I.....I.....I.....I.....I.....I.....I
      10      20      30      40      50
Percent Of Sample Population (80 valid cases)

```

Figure 13. Control And Coordination Procedures

formal, as supported by the 29-28-43 planning factor. The PMP was the most referenced document for recording the control and coordination procedures.

The sample population was divided over the existence of a timetable for the update of plans (Table X). Eighty-six percent of the respondents were familiar with feedback procedures for their program.

Table X
Control Phase

Issue	Yes	No	Valid Cases
Timetable For Updating Plans	48	52	84
Feedback Procedures	86	14	84
Plans For Changing Present Approach To Planning	17	83	84

A large majority stated that there were no plans for changing their present approach to planning. The 17% who indicated plans for changing their planning approach were from 11 different SPOs. Each of the respondents who indicated future changes in their planning approach had coworkers who foresaw no changes. Sixteen percent of the program managers, 5% of the engineers, 32% of the logisticians and 17% of the program controllers indicated that changes in planning were forthcoming. The high percentage of logisticians indicating plans for changing the planning approach could have been caused by the logistition who returned 5 questionnaires from his office--all of whom could be anticipating changes.

An overview of the respondents' time spent in planning the program, implementing the program, controlling the program and fire fighting was provided in Table XI. The greatest amount of time was 33% for implementation with fire

TABLE XI
Percent Time Spent On Program Activities

Time	Planning	Implementing	Controlling	Fire Fighting
0- 9	26	4	15	4
10-19	36	19	26	20
20-29	12	16	15	25
30-39	4	11	11	15
40-49	3	14	7	3
50-59	2	8	7	6
60-69	-	3	2	4
70-79	1	4	-	3
80-89	-	2	1	3
90-99	-	2	-	1
Mean	14 %	33 %	22 %	29 %
Cases	84	83	84	84

fighting right behind implementation at 29%. Only 14% was indicated for planning purposes.

Summary. Table XII summarizes the planning approach used by ASD. For the planning premises phase, formal long range planning was most characteristic of the economic area of the environmental analysis. The other areas of the environmental analysis--user requirements, political

TABLE XII

Summary of Planning Approach

PLANNING PHASE	PLANNING APPROACH	
	Style	Documentation
Planning Premise		
Environmental Analysis		
Economic	Formal	Formal
Requirements	Informal	Formal
Political	Informal	Never
Threat	Informal	Formal
Organizational Analysis	Informal	Never
Plan Formulation		
Define Objectives	Formal	Formal
Strategy Development		
Consider Objectives	Informal	Mixed
Allocation of Funds	Formal	Formal
Allocation of Manpower	Formal	Mixed
Organizational Structure	Informal	Never
Alternative Courses	Informal	Mixed
Test Planning Assumptions	Informal	Never
Test Plans	Mixed	Never

environment and threat environment--had an informal approach. The organizational analysis was informal and lacked documentation. Overall, the planning premises phase was characterized by an informal planning style with either no documentation or formal documentation.

During plan formulation, objectives were typically defined through the PMD and AFSC FORM 56. A formal planning style was most prevalent with the allocation of funds and manpower, yet only the funds allocation was consistently recorded in formal documentation. The consideration of objectives prior to strategy development and the pursuit of alternative courses of action had an informal style with a

mixed approach to documentation. Changes in organizational structure, tests of planning assumptions and tests of plans were informal and rarely documented.

Implementation and control had in informal style. Documentation, on the other hand, tended to be formal.

Overall, the time that program office personnel spent implementing the program, fire fighting, controlling the program and planning the program was 33%, 29%, 22% and 14%, respectively.

Research Question Three

Do the SPOs use the long range planning tools which are outlined in the regulations?

Table XIII highlights the percentage of the respondents who were aware of the specified plan for their program. Each plan will be discussed in the order listed in the Figure.

Program Management Plan (PMP). Of the 84 responses, 94% indicated that there was a PMP for their program. The 6% who indicated that there was not a PMP for the program had coworkers on their program who had an affirmative answer to the question. Most interesting was the fact that the 6% were all program managers. Since program managers were responsible for developing and updating the PMP one would have assumed that the program managers were correctly answering when they indicated that there was not a PMP for

TABLE XIII
Existence Of Plans

Plan	Percent Responses Indicating That The Plan Exists
Program Management Plan	94
Test and Evaluation Master Plan	73
Integrated Logistics Support Plan	73
Acquisition Plan	71
Configuration Management Plan	54
Source Selection Plan	48
System Engineering Management Plan	31

their program. There does not appear to be a logical reason why the functional support personnel contradicted the program manager. Figure 14 displays the ratings for how familiar the SPO personnel were with the plan. Seventy-five percent of the respondents believed that the SPO personnel were either very familiar or moderately familiar with the PMP. This plan was the most widely existing plan with the program offices in ASD and was very familiar to the program office personnel.

Test and Evaluation Master Plan. Seventy-three percent of the sample population stated that their program had a TEMP. Eighteen of the 27 SPOs had consistent answers. Sixty-eight percent of the respondents indicated that the plan was either very familiar or moderately familiar to the program office personnel (Figure 15).

```

Code
  I Very Familiar
1 ***** (27)
  I
  I Moderately Familiar
2 ***** (35)
  I
  I Little Familiarity
3 ***** (15)
  I
  I Not Familiar
4 ***** (6)
  I
  .....I.....I.....I.....I.....I
  0      10      20      30      40      50
Frequency

```

Figure 14. Familiarity Of SPO Personnel With
The Program Management Plan

```

Code
  I Very Familiar
1 ***** 34 %
  I
  I Moderately Familiar
2 ***** 34 %
  I
  I Little Familiarity
3 ***** 13 %
  I
  I Not Familiar
4 ***** 18 %
  I
  .....I.....I.....I.....I.....I
  10      20      30      40      50
Percent Of Sample Population (82 valid cases)

```

Figure 15. Familiarity Of SPO Personnel With
The Test And Evaluation Master Plan

Code	I	Very Familiar	
1	*****		27 %
	I		
	I	Moderately Familiar	
2	*****		31 %
	I		
	I	Little Familiarity	
3	*****		%
	I		
	I	Not Familiar	
4	*****		20 %
	I		
I.....I.....I.....I.....I.....I		
		10 20 30 40 50	
		Percent Of Sample Population (83 valid cases)	

Figure 16. Familiarity Of SPO Personnel With
The Integrated Logistics Support Plan

Integrated Logistics Support Plan. The existence of the ILSP was indicated by 73% of the respondents. Eighteen SPOs had consistent answers within the SPO. With regard to the familiarity of the SPO personnel with the plan, very familiar and moderately familiar responses were chosen by 58% of the sample population (Figure 16). All of the logisticians questioned indicated that there was an ILSP for the program while at least 14% of each other functional office stated that the plan did not exist.

Acquisition Plan. Seventy-one percent of the sample population stated that their program had a Acquisition Plan. Again, 18 of the 27 SPOs had answers that were consistent within the SPO. A relationship between this plan and the

```

Code
  I Very Familiar
1 ***** 40 %
  I
  I Moderately Familiar
2 ***** 31 %
  I
  I Little Familiarity
3 ***** 12 %
  I
  I Not Familiar
4 ***** 17 %
  I
  .....I.....I.....I.....I.....I
           10      20      30      40      50
Percent Of Sample Population (83 valid cases)

```

Figure 17. Familiarity Of SPO Personnel With
The Acquisition Plan

program phase or functional office of the respondent was not indicated by the data. Seventy-one percent of the respondents indicated that the plan was either very familiar or moderately familiar to the SPO personnel (Figure 17).

Configuration Management Plan. The existence of the CMP was indicated by only 54% of the respondents. With regard to the program office's familiarity with the plan, very familiar and moderately familiar responses were chosen by 39% of the sample population, with 41% having chosen not familiar (Figure 18). As Figure 19 shows, the data supported a relationship between the existence of the CPM and the program phase. As the program proceeds from concept exploration to program management responsibility transfer, the CMP was used more frequently.

```

Code
I  Very Familiar
1 ***** 21 %
I
I  Moderately Familiar
2 ***** 18 %
I
I  Little Familiarity
3 ***** 21 %
I
I  Not Familiar
4 ***** 41 %
I
.....I.....I.....I.....I.....I
      10      20      30      40      50
Percent Of Sample Population (83 valid cases)

```

Figure 18. Familiarity Of SPO Personnel With
The Configuration Management Plan

```

I  Concept Exploration
1 ***** 16 %
I
I  Demonstration/Validation
***** 52 %
I
I  Full-Scale Development
***** 74 %
I
I  Production
***** 82 %
I
.....I.....I.....I.....I.....I
      20      40      60      80      100
Percent Of Program Phase Population (69 valid cases)

```

Figure 19. Program Phase and
The Configuration Management Plan

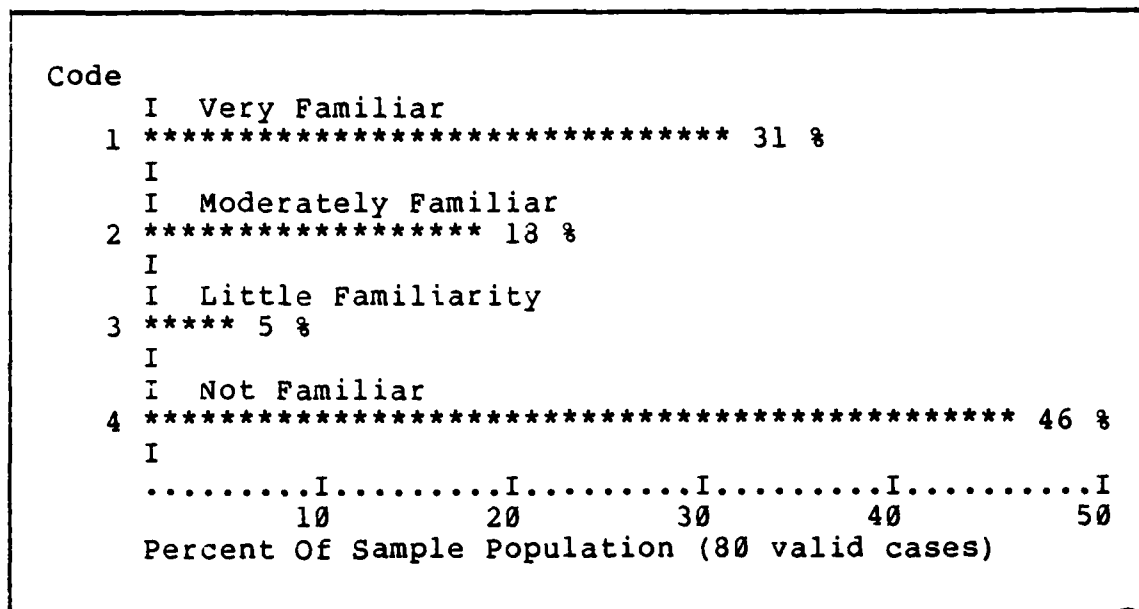


Figure 20. Familiarity Of SPO Personnel With The Source Selection Plan

Source Selection Plan. Forty-eight percent of the sample population stated that their program had a Source Selection Plan. Forty-nine percent indicated that the plan was either very familiar or moderately familiar to the program office personnel (Figure 20). The data supported a relationship between the existence of the Source Selection Plan and the program phase (Figure 21). The plan received a lot of attention in the concept exploration and demonstration/validation phases and then decreased for the remainder of the program life. As the design matures, competitors drop out and the probability of sole source purchases increases. On the other hand, the data could suggest that as the program moves closer to production, fewer people understand what is to be bought.

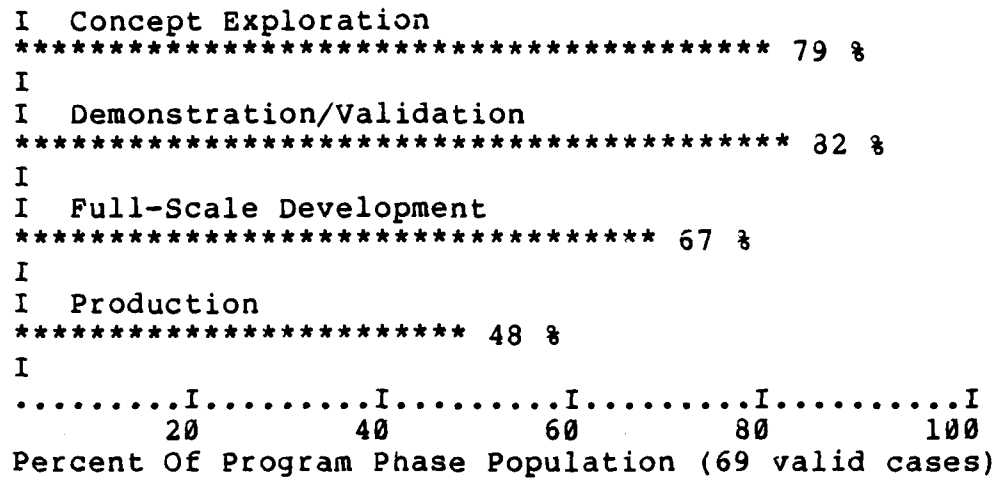


Figure 21. Program Phase and
The Source Selection Plan

System Engineering Management Plan. Only 31% of the sample population indicated that the System Engineering Management Plan existed. Within the functional areas, 20% of the program managers, 24% of the engineers, 47% of the logisticians and 61% of the program controllers indicated that the plan existed for the program (Figure 22). No reason was uncovered for this difference of views between the functional offices. Sixteen of the 27 SPOs represented in the sample population had respondents that gave contradicting answers. Not surprisingly, 66% of the respondents judged that SPO personnel were not familiar with the plan (Figure 23). If the SEMP did exist, it was not widely used and not everyone was aware that it existed. The SEMP was the least used plan of all the planning documents surveyed in this thesis.

```

Code
  I Program Management
1 ***** 20 %
  I
  I Engineering
2 ***** 24 %
  I
  I Logistics
3 ***** 47 %
  I
  I Program Control
4 ***** 61 %
  I
  .....I.....I.....I.....I.....I
        20      40      60      80     100
Percent Of Sample Population (83 valid cases)

```

Figure 22. Familiarity Of Functional Offices With
The System Engineering Management Plan

```

Code
  I Very Familiar
1 ***** 7 %
  I
  I Moderately Familiar
2 ***** 10 %
  I
  I Little Familiarity
3 ***** 17 %
  I
  I Not Familiar
4 ***** 66 %
  I
  .....I.....I.....I.....I.....I
        20      40      60      80     100
Percent Of Sample Population (83 valid cases)

```

Figure 23. Familiarity Of SPO Personnel With
The System Engineering Management Plan

Other Plans. When offered the opportunity to indicate other tools used by the SPO for planning purposes, the respondents frequently listed the Computer Resources Integrated Support Plan (CRISP), Program Baseline and PMRT Plan. The CRISP, as identified in AFR 800-14, establishes the management focal points, channels of communication and configuration control responsibilities for the management and technical support of computer resources. The Program Baseline is defined in AFR 800-25 and includes the description of program requirements, the program content and the approved funding. The PMRT Plan is detailed in AFLCP/AFSCP 800-34 and covers the timing and process for turning over program responsibility from the implementing command (typically AFSC) to the supporting command (typically AFLC).

Summary. The Program Management Plan was widely used by the program offices in ASD. The Test and Evaluation Master Plan, the Integrated Logistics Support Plan and the Acquisition Plan received frequent use. The Configuration Management Plan, the Source Selection Plan and the System Engineering Management Plan were infrequently used. Overall, few of the plans required by regulation received wide application.

Research Question Four

What are the pros and cons associated with long range planning?

Table XIV lists the benefits of long range planning with the associated frequency of response. Table XV lists the frequency of response receiving a number one ranking. More efficient resource allocation and better quality decision-making were clearly the most often cited benefits. The ability to explore alternatives was the third most popular response with little distinction being made between the remaining benefits.

When asked to cite other benefits of long range planning, the respondents generated the following list:

- Thought process in arriving at a plan is important
- mental exercise for the manager
- Forge common understanding; teamwork
- Efficient use of time
- More supportable system
- Better control of development process through technical plans
- Matrixed personnel have plans to use as a reference
- Logistics planning to enhance supportability
- Maximize safety with acceptable logistics impact
- Improved reliability and maintainability

The first benefit listed above was commonly mentioned during interviews with the respondents. Almost all of the interviewees stated that most of the formal program office plans have received little use after being developed. The benefit of the plan was, therefore, the experience gained through putting the plan together.

TABLE XIV

Benefits Of Planning: Frequency Of Occurrence

Benefit	Frequency	Percent
More efficient resource allocation	53	63
Better quality decision-making	52	62
Ability to explore alternatives	43	51
Cost savings	34	40
Improved survival in the POM process	32	38
Reduces feelings of uncertainty	32	38
More accurate forecasts	31	37
Faster decision-making	31	37
More Timely Information	29	35
Overcome funding/cash flow problems	26	31

TABLE XV

Benefits Of Planning: Frequency Being Ranked #1

Benefit	Frequency
Better quality decision-making	23
More efficient resource allocation	12
Improved survival in the POM process	7
Ability to explore alternatives	6
Reduces feelings of uncertainty	6
Cost savings	4
More accurate forecasts	3
Overcome funding/cash flow problems	3
Faster decision-making	2
More Timely Information	2

The top ranked difficulties associated with long range planning were insufficient time, unpredictable political environment, inadequately defined objective and inexperienced managers (Table XVI and Table XVII). More simply stated, the program office is very dynamic--fast paced, politically unpredictable, objectives hard to pin down, and experienced people hard to keep.

As the data from research question two indicated, a formal approach was followed for the definition of objectives, yet, inadequately defined objectives surfaced as one of the predominate difficulties. The sample population indicated that the objectives were defined in the PMD and AFSC FORM 56. Perhaps this formal documentation from HQ USAF and AFSC was, alone, insufficient for the guidance of the program office personnel.

Other difficulties in long range planning were identified by the respondents. They include the following:

- Rigidity of plan; lack of flexibility
- Plan not flexible enough to cope with changes
- High turnover of managers
- Lack of functional manpower
- Schedule too tight without sufficient manpower
- Insufficient schedule time
- Overcome by events
- Constantly changing Air Staff directives
- Lack of higher headquarters direction to proceed beyond the monitoring role
- Too many layers between program manager and approval authority of plans
- Budget changes
- Inability to get prime contractor to plan adequately
- Definition of system and user needs
- Program developed by another command

TABLE XVI

Difficulties Of Planning: Frequency Of Occurrence

Difficulty	Frequency	Percent
Insufficient time for planning	36	43
Unpredictable political environment	33	39
Inadequately defined objectives	31	37
Inexperienced managers	27	32
Poor planning climate	21	25
Inadequate user support for the plans	14	17
Resistance to change	13	16
Coordinating the planning process	13	16
Obtaining trustworthy data	11	13
Unfavorable economic situation	10	12
Generating enough alternatives	5	6
Testing initial planning assumptions	4	5
Insufficient subordinate participation	4	5

TABLE XVII

Difficulties Of Planning: Frequency Of Being Ranked #1

Difficulty	Frequency
Unpredictable political environment	13
Inadequately defined objectives	14
Insufficient time for planning	11
Inexperienced managers	6
Obtaining trustworthy data	5
Poor planning climate	3
Inadequate user support for the plans	3
Testing initial planning assumptions	3
Resistance to change	2
Coordinating the planning process	2
Unfavorable economic situation	2
Generating enough alternatives	2
Insufficient subordinate participation	2


```

Code
I
I  Extremely Useful
1 ***** 38 %
I
I  Useful
2 ***** 51 %
I
I  Seldom Useful
3 **** 3%
I
I  Not Useful
4 * 2%
I
I.....I.....I.....I.....I.....I.....I
      20      40      60      80      100
Percent Of Sample Population

```

Figure 24. Usefulness Of Long Range Planning
To Respondents SPO

Research Question Five

Is long range planning useful to the program office?

Figure 24 records the responses to the question, "Do you think long range planning is useful or could be useful for your program office?" Eighty-nine percent of the respondents think that long range planning is either extremely useful or useful to their SPO.

The effect of existing and non-existing SPO plans on the respondent is summarized in Figure 25 and Figure 26. With regard to the existing plans, 76% viewed the plans as helpful. In identifying the impact of plans not currently used by the program office, 60% of the respondents saw a need for improvement, indicating that the absence of plans has hurt them in performing their job.

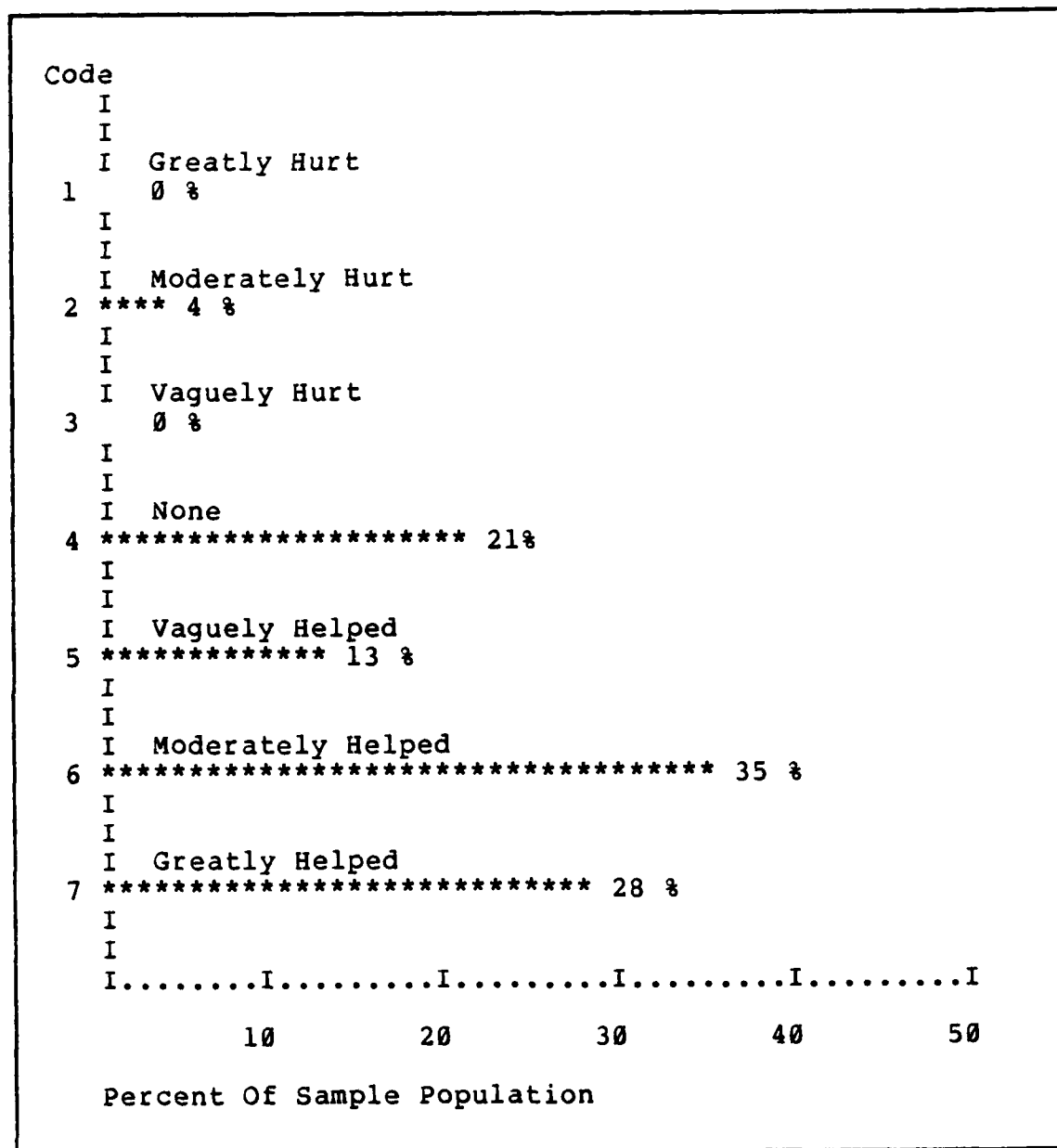


Figure 25. Effect Of SPO Plans On Respondent

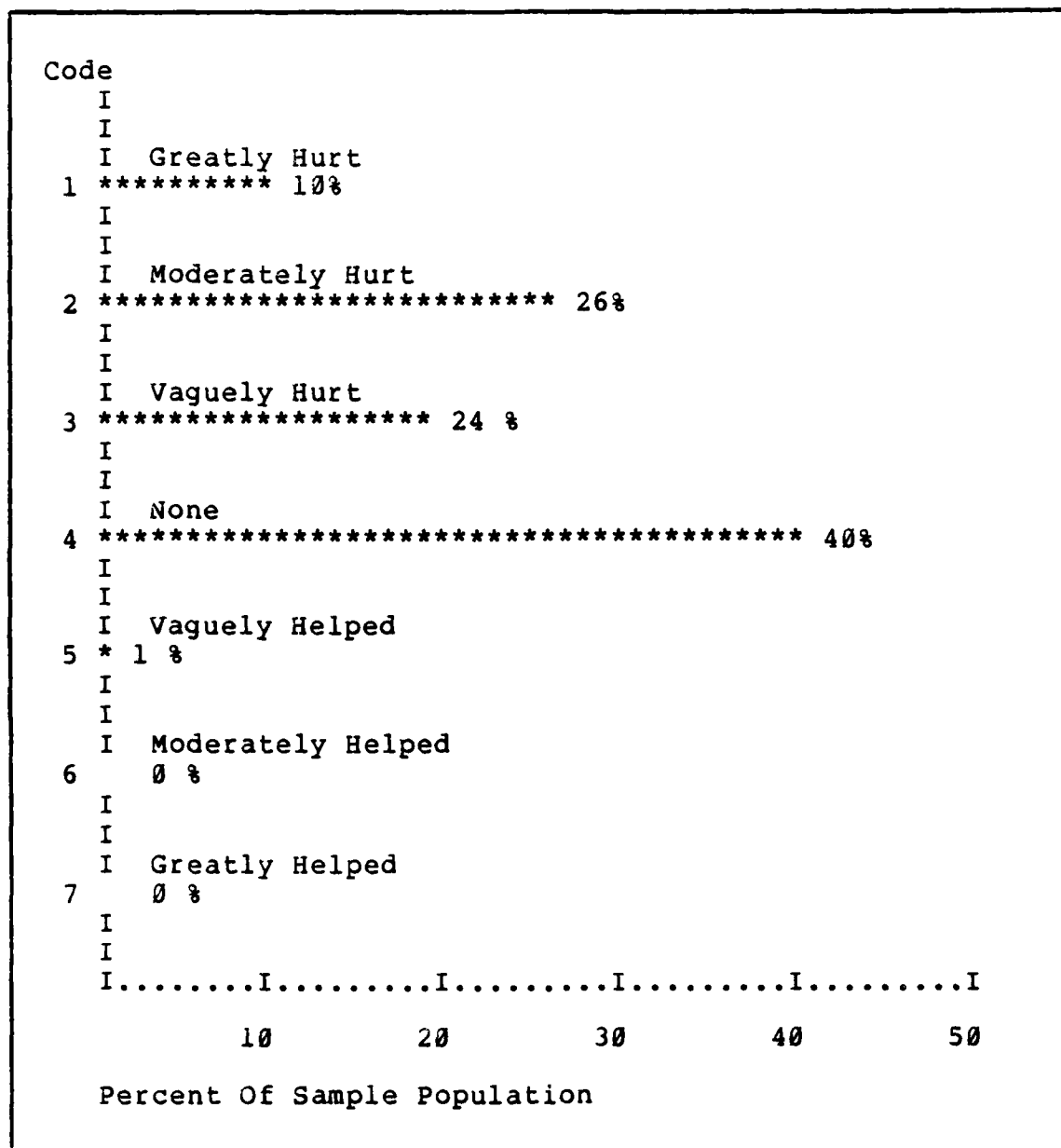


Figure 26. Effect Of Absent SPO Plans On Respondent

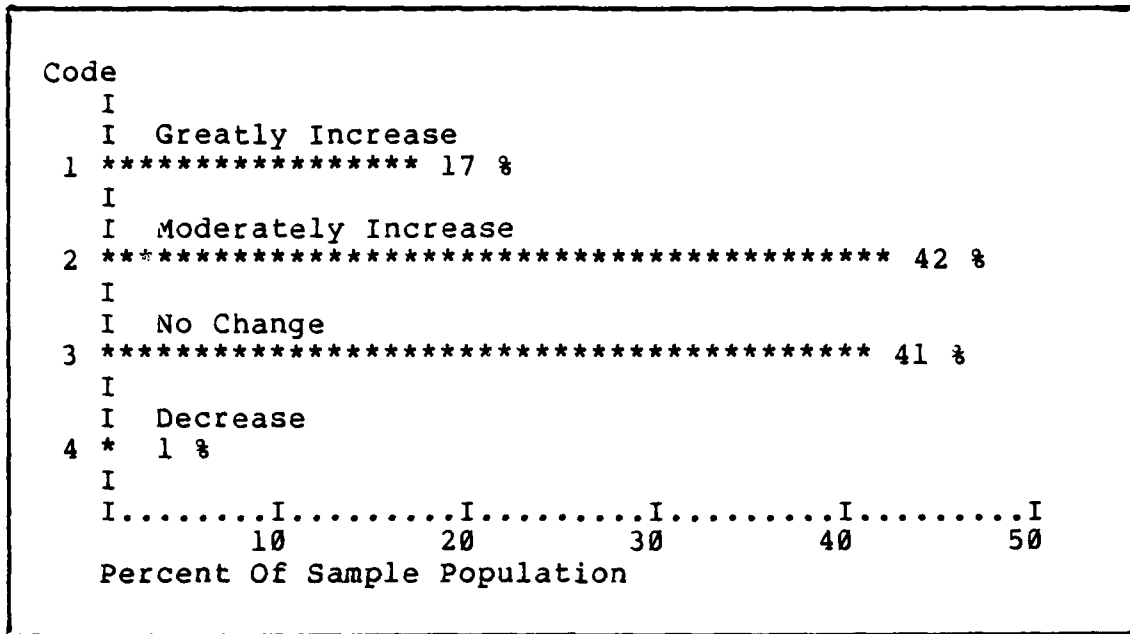


Figure 27. Recommended Direction For Long Range Planning
In Respondent's SPO

For the recommended direction of attention to long range planning in the respondents SPO, Figure 27 summarizes the responses. Forty-nine respondents, or 58% of the sample population, saw a need for increased use of long range planning. Thirty-four respondents, or 41% of the sample population saw no need for changes in the SPOs long range planning. The single response that supported a decrease in long range planning was an engineer from an office which has a separate long range planning group.

With regard to the respondents view of the need for long range planning in other SPOs, Figure 28 summarizes the responses. Fifty-five respondents (74%) support increased

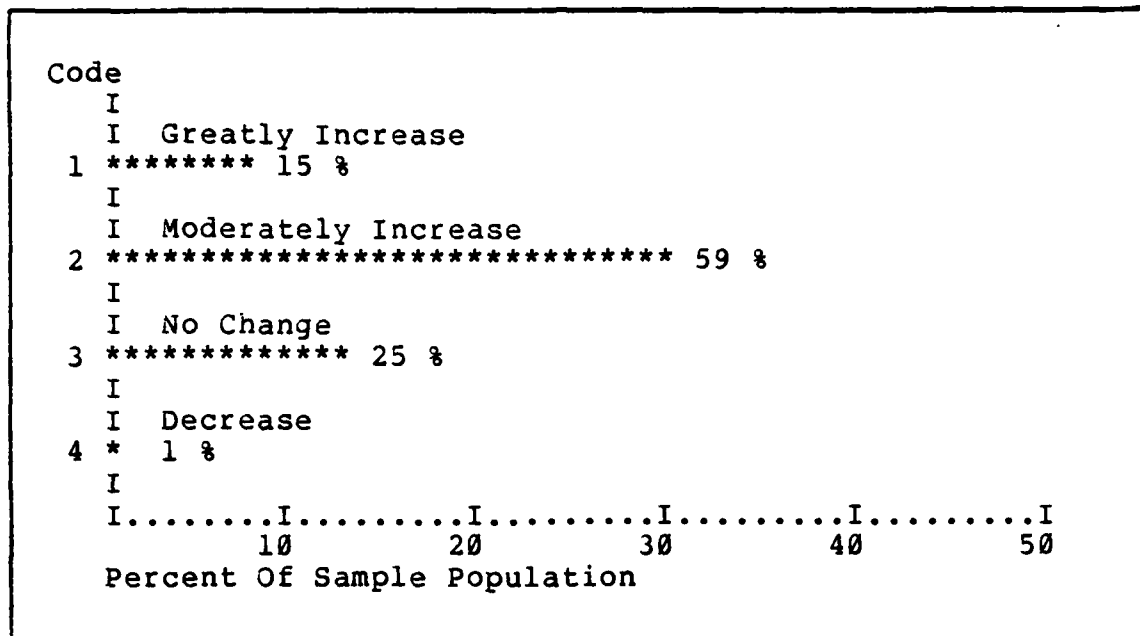


Figure 28. Recommended Direction For Long Range Planning
In Other SPOs

attention verses 19 respondents (26%) who support no change. The single response that supported a decrease in long range planning was a logistician from an office without a long range planning group.

Long range planning is useful to the program office. Current SPO plans have helped the respondents perform their jobs better, while absent plans have either no effect or a negative effect. By a slight majority, the sample population supports increased attention to long range planning in their SPO, while they strongly support increased attention to long range planning in other program offices.

IV. Summary, Conclusions and Recommendations

Summary

Strategic, or long range, planning was the focus of this research study. Specifically, this study took a step toward understanding the role of strategic planning within weapon system program offices. At Air Force Headquarters formal strategic planning is done across all Air Force programs, but formal strategic planning has not become a regular part of management within individual programs.

Strategic planning was categorized into informal and formal styles. Informal strategic planning was a combination of reactive and intuitive-anticipatory approaches. Formal strategic planning was a dynamic, continuous process that linked all organizational planning together and documented alternative courses of action. Thune and House have proven a positive relationship between formal strategic planning and successful performance. Formal planning is one of several characteristics of the successful organization.

A questionnaire was used to identify strategic planning approaches used in the SPO, to assess the existence and familiarity of the SPO with plans required by regulations, to identify benefits and difficulties associated with strategic planning, and to collect information on the perceived usefulness of strategic planning to system acquisition.

The sample population consisted of the key personnel in charge of management, engineering, logistics and program control for programs within system program offices at Aeronautical Systems Division, Air Force Systems Command.

Conclusions

The first research question focused on the existence of a separate, distinguishable group responsible for strategic planning. The research indicated that separate, distinguishable groups solely responsible for strategic planning were the exception and not the rule. The interviews did reveal that three SPOs had a separate group performing a strategic planning function. Eight SPOs (three-letter organizations) had a strategic planning group at the two-letter level. None of these planning groups at ASD have existed for more than three years--most have been formed in the past year. Of the surveyed respondents in those eleven organizations, only one respondent (a Director of Program Control) indicated on the questionnaire that the separate planning group existed. Inconsistent perceptions on the existence and role of strategic planning were prevalent throughout the sample population.

The time periods that strategic plans covered ranged from six months to greater than five years. Thirty-five percent of the sample population were planning for one year or less. There was a slight trend toward shorter planning periods as the program proceeded through production and PMRT.

The second research question focused on whether SPOs were doing formal strategic planning. The strategic planning approach within SPOs at ASD was a mix of nonexistent planning, informal planning and formal planning. Planning styles were characterized through an analysis of planning phases--planning premise, plan formulation, implementation and control. For the planning premise phase, the environmental analysis was broken into economic, user requirements, political and threat areas. Formal strategic planning was most noticeably done in the economic area. The other areas of the environmental analysis--user requirements, political environment and threat environment--were characterized by an informal approach. The organizational analysis was informal and lacked documentation. Overall, the planning premise phase was characterized by an informal planning style with either no documentation or formal documentation.

During plan formulation, objectives were typically defined through the PMD and AFSC FORM 56. A formal planning style was most prevalent with the allocation of funds and manpower, yet only the funds allocation was consistently recorded in formal documentation. The consideration of objectives prior to strategy development and the pursuit of alternative courses of action had an informal style with a mixed approach to documentation. Changes in organizational structure, tests of planning assumptions and tests of plans were informal and rarely documented.

Implementation and control phases were characterized by an informal approach to strategic planning. Documentation, on the other hand, tended to be formal. The time that program office personnel spent implementing the program, fire fighting, controlling the program and planning the program was 33%, 29%, 22% and 14%, respectively.

The third research question investigated the use of plans required by regulations. Few of the plans received wide application. The Program Management Plan was widely used by the program offices in ASD. The Test and Evaluation Master Plan, the Integrated Logistics Support Plan and the Acquisition Plan received frequent use. The research indicated that the Configuration Management Plan received more use during the later program phases than the early phases, yet, in general, it was unfamiliar to many of the people in the program offices. The Source Selection Plan was more familiar to program offices in the early stages of their program's life cycle, but respondents stated that many program office personnel were unfamiliar with the plan. The System Engineering Management Plan was the least used plan of all the planning documents surveyed.

The fourth research question focused on the pros and cons of strategic planning in the program office. More efficient resource allocation and better quality decision-making were the most common benefits of planning. Almost all of the interviewees stated that most of the formal

program office plans have received little use after being developed, yet, the benefit of the plan was the experience gained through putting the plan together. Unfortunately, with few formal plans getting annual (or more frequent) updates and with 54% of the respondents having one year or less experience in their current jobs, few of the incumbent SPO personnel would have participated in drafting/updating the plans.

The top ranked difficulties associated with strategic planning were insufficient time, unpredictable political environment, inadequately defined objective and inexperienced managers. More simply stated, the program office was very dynamic--fast paced, politically unpredictable, objectives hard to pin down, and experienced people hard to keep.

The fifth research question asked the respondents if strategic planning was useful or could be useful for the program office. The research data indicated that strategic planning has been useful to the program office. Current SPO plans have helped the respondents perform their job better, while the lack of certain types of plans have had either no effect or a negative effect. By a slight majority, the sample population support increased attention to strategic planning in their SPO.

Recommendations

Following are recommendations for further research in order to more fully understand strategic planning within weapon system program offices:

Future research could expand this effort by obtaining similar data from other product divisions within Air Force Systems Command.

Future research could study the strategic planning groups that currently exist in SPOs.

Future research could study the interface between the SPO and the planning offices at the product division, AFSC and HQ USAF.

Future research could study the use of and resistance to both short range and strategic planning by SPO personnel.

Think in anticipation, today for tomorrow, and indeed, for many days. The greatest providence is to have forethought for what comes. What is provided for does not happen by chance, nor is the man who is prepared ever beset by emergencies. One must not, therefore, postpone consideration till the need arises. Consideration should go before-hand. You can, after careful reflection, act to prevent the most calamitous events. The pillow is a silent Sibyl, for to sleep over questions before they reach a climax is far better than lying awake over them afterward. Some act and think later--and they think more of excuses and consequences. Others think neither before nor after. The whole of life should be spent thinking about how to find the right course of action to follow. Thought and forethought give counsel both on living and on achieving success [8:45].

APPENDIX A

ACRONYMS AND DEFINITIONS

Acronyms

AFIT - Air Force Institute of Technology
AFIT/LS - School of Systems and Logistics
AFLC - Air Force Logistics Command
AFLCP - Air Force Logistics Command Pamphlet
AFR - Air Force Regulation
AFSC - Air Force Systems Command
AFSCP - Air Force Systems Command Pamphlet
ASD - Aeronautical Systems Division
BES - Budget Estimate Submission
CMP - Configuration Management Plan
CRISP - Computer Resources Integrated Support Plan
DOD - Department of Defense
FSD - Full-Scale Development
FYDP - Five Year Defense Program
ILSP - Integrated Logistics Support Plan
MIL-STD - Military Standard
PMD - Program Management Directive
PMP - Program Management Plan
PMRT - Program Management Responsibility Transfer
POM - Program Objective Memorandum
PPBS - Planning, Programming and Budget System
SEMP - System Engineering Management Plan
SPD - System Program Director

SPO - System Program Office

SPSS - Statistical Package for the Social Sciences

TEMP - Test and Evaluation Master Plan

HQ USAF - Headquarters United States Air Force

Definitions

Basket-SPO - A system program office responsible for the research and development of a class of systems, typically a three-letter organization. For example, life support systems, electronic warfare equipment, engines, etc.

Planning Factor - A summary of the percent frequency of responses indicating a lack of planning, informal planning and formal planning. The planning factor 10-30-60 indicated that 10% of the respondents were using no planning, 30% were using informal planning and 60% were using formal planning.

Super-SPO - A two-letter system program office responsible for the research and development of a single weapon system. For example, the F-16, B1-B, etc.

System Program Office - A two- or three-letter organization within the product division responsible for the research and development of a system or class of systems. The term system program office was used in this thesis according to the organizational chart of Aeronautical Systems Division, dated April, 1985.

APPENDIX B

QUESTIONNAIRE

LONG RANGE PLANNING IN WEAPON SYSTEM PROGRAM OFFICES

This questionnaire should be answered in light of the long term management planning that is done INTERNAL to your program office and for SPO use. This does not include the POM/BES cycle which is a part of the Defense Department's PPBS. But, if your SPO has expanded the work in preparation for the POM/BES submittal beyond what is considered "standard" in Air Force acquisition, do include that expanded work in answering the questionnaire.

Due to the inconsistency of titles in the program offices, the term "functional chief" refers to the individual who heads an office which directly supports the system program director. For example, the chief of projects, test, configuration, program control, engineering, etc.

As appropriate, circle the most correct response for each question or indicate the response in the blank provided next to the question. UNLESS OTHERWISE SPECIFIED, EACH QUESTION HAS ONLY ONE ANSWER. Please answer every question.

Names will not be included in the data base--your responses will not be traced back to you.

1. Circle the appropriate response.
 1. I work in a single-system program office
(ie, F-16 SPO, B-1B SPO, etc.)
 2. I work in a multiple-system program office
(ie, Tactical Engines SPO, Life Support SPO, etc.)

For respondents working in a multiple-program office, choose ONE system and answer the following questions with regard to that system.

2. How is long range planning accomplished within your program office?
 1. Line - separate plans within each directorate
 2. Staff - unified plan for all directorates
 3. Combination of line and staff
 4. Separate, specialized long range planning group
 5. Long range planning is done outside of your program office, with your program office providing data where needed
 6. Other (explain)

If your response to this question was 4 please answer the following. If your response was not 4, skip this section and move to Question 3.

(a) What is the title of the planning group?

(b) How long ago was it established? _____ years

(c) Where in the organization does the planning group report?

- | | |
|----------------------|--------------------|
| 1. SPD | 3. Other (explain) |
| 2. Functional chiefs | |
-

(d) What is the primary responsibility of the planning group? (If possible, please attach any policy statements indicating function and scope.)

- | | |
|-----------------------------|-------------------|
| 1. Develop planning process | 3. Review plans |
| 2. Prepare plans | 4. Set objectives |

(e) What was the primary reason why your program office established the planning group?

- | | |
|-----------------------|---------------------|
| 1. Cost Issues | 4. Logistics Issues |
| 2. Schedule Issues | 5. Other (specify) |
| 3. Performance Issues | |
-

(f) What was the secondary reason why your program office established the planning group?

- | | |
|-----------------------|---------------------|
| 1. Cost Issues | 4. Logistics Issues |
| 2. Schedule Issues | 5. Other (specify) |
| 3. Performance Issues | |
-

(g) How many people participate in the planning group?

(h) Who makes up the planning group? Choose as many responses as appropriate.

- | |
|--------------------------|
| 1. Program Director |
| 2. Functional chiefs |
| 3. Other (explain) _____ |
-

(i) What primary characteristics figured in the choice of planners? Choose as many responses as appropriate.

- | | |
|-------------------------|--------------------|
| 1. Planning experience | 3. Personality |
| 2. Functional knowledge | 4. Political savvy |

3. What is the primary method for the functional chiefs to participate in your program office's long range planning process?

- | | |
|------------------|-----------------|
| 1. Prepare plans | 3. Review plans |
| 2. Provide input | 4. Not involved |

4. What is the primary method for people below the functional chiefs to participate in your program office's long range planning process?
- | | |
|------------------|-----------------|
| 1. Prepare plans | 3. Review plans |
| 2. Provide input | 4. Not involved |
5. How often does your program office perform a detailed analysis of the program's economic environment?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the analysis documented?

- | |
|---|
| 1. Yes, in the Program Management Plan. |
| 2. Yes, in _____. |
| 3. No |

6. How often does your program office perform a detailed analysis of the program's political environment?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the analysis documented?

- | |
|---|
| 1. Yes, in the Program Management Plan. |
| 2. Yes, in _____. |
| 3. No. |

7. How often is an appraisal made of the strengths and weaknesses of each functional department of your program office?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the appraisal documented?

- | |
|---|
| 1. Yes, in the Program Management Plan. |
| 2. Yes, in _____. |
| 3. No |

8. How often is there a thorough testing/analysis of planning assumptions prior to the development of plans?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are the results documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

9. How often is there an analysis made of the possibility of changed user requirements?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the analysis documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

10. How often is there an analysis made of the possibility of a changed threat environment?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the analysis documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

11. How often does your program office consider the possibility of having to change its organizational structure as a result of the plans which have been developed and selected for implementation?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are the considerations documented?

1. Yes, in the Program Management Plan
2. Yes, in _____.
3. No.

12. How often are the overall objectives of your program office considered before any plans are developed?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are the considerations documented?

1. Yes, in the Program Management Plan
2. Yes, in _____.
3. No.

13. How often are alternative courses of action actively sought by your program office in the planning process?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are these alternative courses of action documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

14. How often are detailed plans made for the allocation of your program office's funds as a means of achieving objectives?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are these plans documented?

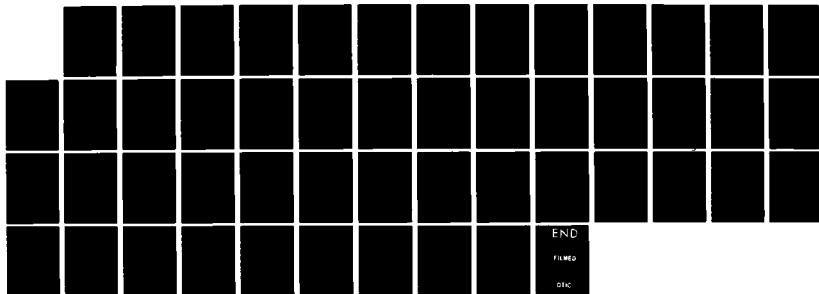
1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

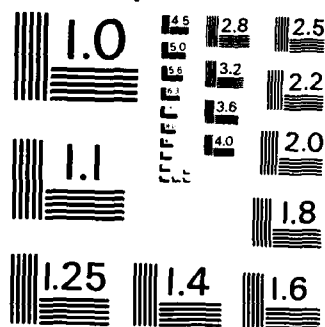
15. Are detailed plans made for the allocation of your program office's manpower as a means of achieving objectives?
- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Are these plans documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

AD-A161 127 STRATEGIC PLANNING WITHIN WEAPON SYSTEM PROGRAM OFFICES 2/2
AT AERONAUTICAL S.. (U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. L A COREY
UNCLASSIFIED SEP 85 AFIT/GSM/LSV/855-7 F/G 5/1 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

16. Who actually has the greatest influence in setting your SPO's objectives?

- | | |
|------------|----------------------|
| 1. HQ USAF | 5. Functional chiefs |
| 2. HQ AFSC | 6. Other (specify) |
| 3. HQ ASD | _____ |
| 4. SPD | |

Are these objectives documented?

1. Yes, in the Program Management Directive (PMD).
2. Yes, in the AFSC FORM 56.
3. Yes, in _____.
4. No.

17. To what extent is there immediate agreement by the functional chiefs on your program office's objectives?

1. Always
2. Often
3. Seldom
4. Never

Is this agreement documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

18. What is the primary criteria used for expanding the capabilities of the system beyond the PMD.

- | | |
|-----------------------|--------------------------|
| 1. Impact on cost | 3. Impact on performance |
| 2. Impact on schedule | 4. Impact on logistics |

Is there documentation to support this analysis?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

19. After your program office has identified its objectives, in which area is most of the detailed planning done?

- | | |
|--------------------------------|--------------------|
| 1. Production/manufacturing | 6. Logistics |
| 2. Engineering | 7. Contracting |
| 3. Program control | 8. Other (specify) |
| 4. Configuration | _____ |
| 5. Projects/program management | |

Is there documentation to support this analysis?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

20. In general, for what period of time in the future are the plans WITHIN your program office prepared?

- | | |
|-----------------------|-------------------------|
| 1. Today to 6 months | 4. 3 to 5 years |
| 2. 6 months to 1 year | 5. Greater than 5 years |
| 3. 1 to 3 years | |

21. Does your program office have a designated timetable that is adhered to for the submission and update of plans?

1. Yes 2. No

22. How often does your program office pretest its plans prior to actual implementation?

- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is this pretest documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

23. How often does your program office use control and coordination procedures for their management plans?

- | | |
|-------------------------------|------------|
| 1. At program initiation only | 5. Monthly |
| 2. Occasionally | 6. Weekly |
| 3. Annually | 7. Daily |
| 4. Quarterly | 8. Never |

Is the procedure documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

24. How often are your program office's plans immediately accepted by the functional chiefs?

1. Always 2. Often 3. Seldom 4. Never

Is the acceptance by the functional chiefs documented?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

25. Is there a feedback procedure in operation that enables problems to be corrected once identified?

1. Yes 2. No

Is there documentation describing this feedback procedure?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

26. Do you have any plans for changing the nature of your present approach to long range planning?
1. Yes
 2. No

Is there documentation for these plans?

1. Yes, in the Program Management Plan.
2. Yes, in _____.
3. No.

27. The program office uses several tools to promote successful system acquisition. Each program office tailors these tools to their own needs. In the chart that follows, indicate

- a. the existence: Y - yes, or
N - no, and
- b. your perception of the program office's familiarity: VF - very familiar,
MF - moderately familiar,
LF - little familiarity, or
NF - not familiar with the plan.

If the chart is not a complete list of the plans used within your program office, please provide the name of the plan, its use, and your program office's familiarity with the plan.

PLAN	EXISTENCE Y or N	FAMILIARITY VF,MF,LF,NF
-----	-----	-----
Program Management Plan		
-----	-----	-----
Acquisition Plan		
-----	-----	-----
System Engineering Management Plan		
-----	-----	-----
Test and Evaluation Master Plan		
-----	-----	-----
Integrated Logistics Support Plan		
-----	-----	-----
Configuration Management Plan		
-----	-----	-----
Contract Strategy Paper		
-----	-----	-----
Source Selection Plan		
-----	-----	-----
OTHER PLANS	USE	FAMILIARITY
-----	-----	-----
-----	-----	-----
-----	-----	-----
-----	-----	-----

28. What is/are the key benefit(s) you feel your program office has realized as a result of its planning? Circle as many responses as appropriate; rank order your responses in the blank (#1 being the primary benefit, #2 the second, etc.).
- ___ 1. Cost savings
 - ___ 2. More efficient resource allocation
 - ___ 3. Improved survival in the POM process
 - ___ 4. More Timely Information
 - ___ 5. Better quality decision-making
 - ___ 6. More accurate forecasts
 - ___ 7. Ability to explore alternatives
 - ___ 8. Reduces feelings of uncertainty
 - ___ 9. Faster decision-making
 - ___ 10. Overcome funding/cash flow problems
 - ___ 11. Other (explain) _____
29. What is/are the key difficulty/difficulties you feel your program office has encountered in attempting to execute its long range plans? Circle as many responses as appropriate; rank order your responses in the blank (#1 being the primary difficulty, etc)
- ___ 1. Inadequately defined objectives
 - ___ 2. Inadequate user support for the plans
 - ___ 3. Insufficient time for planning
 - ___ 4. Generating enough alternatives
 - ___ 5. Unpredictable political environment
 - ___ 6. Coordinating the planning process
 - ___ 7. Unfavorable economic situation
 - ___ 8. Testing initial planning assumptions
 - ___ 9. Insufficient subordinate participation
 - ___ 10. Poor planning climate
 - ___ 11. Obtaining trustworthy data
 - ___ 12. Inexperienced managers
 - ___ 13. Resistance to change
 - ___ 14. Other (explain) _____
30. Do you think long range planning is useful or could be useful for your program office?
- | | |
|---------------------|------------------|
| 1. Extremely useful | 3. Seldom useful |
| 2. Useful | 4. Not useful |
31. How has the relative presence of SPO plans affected you in your position?
- | | |
|--------------------|----------------------|
| 1. Greatly hurt | 5. Vaguely helped |
| 2. Moderately hurt | 6. Moderately helped |
| 3. Vaguely hurt | 7. Greatly helped |
| 4. None | |

32. How has the relative absence of SPO plans affected you in your position?
- | | |
|--------------------|----------------------|
| 1. Greatly hurt | 5. Vaguely helped |
| 2. Moderately hurt | 6. Moderately helped |
| 3. Vaguely hurt | 7E. Greatly helped |
| 4. None | |
33. With regard to the amount of attention to long range planning in your SPO, in your opinion, which direction should be pursued?
- | | |
|------------------------|--------------|
| 1. Greatly increase | 3. No change |
| 2. Moderately increase | 4. Decrease |
34. What direction do you think other SPOs, in general, should take?
- | | |
|------------------------|--------------|
| 1. Greatly increase | 3. No change |
| 2. Moderately increase | 4. Decrease |
35. Over how many people do you have authority (that is, how many people are working for you)? _____
36. How many people, dedicated and matrixed, support the whole program office? _____
37. Which response describes the people in your program office?
1. Dedicated to your program.
 2. Matrixed with additional responsibilities to other programs.
 3. Both dedicated and matrixed
38. What three-letter organization are you with? _ _ _
39. What office are you with?
- | | |
|--------------------------|--------------------|
| 1. Projects | 6. Manufacturing |
| 2. Logistics | 7. Contracting |
| 3. Engineering | 8. Other (specify) |
| 4. Program Control | _____ |
| 5. Configuration Control | |
40. What is your rank/grade?
- | | |
|-----------------------|--------------------|
| 1. Colonel | 5. GS-14 |
| 2. Lieutenant Colonel | 6. GS-13 |
| 3. Major | 7. Other (specify) |
| 4. GS-15 | _____ |
41. What was your age on your last birthday? _____ years

42. What is your position?
1. Three-Letter Chief
 2. Deputy Three-Letter Chief
 3. Four-Letter Chief
 4. Deputy Four-Letter Chief
 5. Other (specify) _____
43. How many months have you worked in your current job?
_____ months
44. How many months have you worked in acquisition?
_____ months
45. While associated with the Air Force, in what other career areas (outside of scientific & development engineering and program management) have you had experience? Career codes are in parenthesis.
1. International Political-Military Affairs (02)
 2. Disaster Preparedness (05)
 3. Operations (10 - 22)
 4. Audiovisual (23)
 5. Weather (25)
 6. Communications Electronics (30)
 7. Logistics (31, 40, 60, 62, 64, 65, 66)
 8. Computer Systems (51)
 9. Civil Engineering (55)
 10. Cartography/Geodesy (57)
 11. Comptroller (67, 69)
 12. Personnel Resource Management (70, 73, 74, 75)
 13. Intelligence (80)
 14. Security Police (81)
 15. Special Investigations (82)
 16. Chaplain (89)
 17. Medical (90 - 99)
 18. None
46. In what field is your highest degree?
1. Management
 2. Engineering
 3. Science
 4. Liberal Arts
 5. Other (specify) _____
47. What specialized training have you had to prepare you for this job? Choose as many responses as appropriate.
1. SYS 100 Introduction to Acquisition Management
 2. SYS 200 Acquisition Planning and Analysis
 3. SYS 400 Intermediate Program Management
 4. Defense Systems Management College
 5. Other (specify) _____

48. What PME have you completed? Choose as many responses as appropriate.

1. Squadron Officers' School
2. Intermediate Service School
3. Senior Service School
4. Other (specify) _____

49. What percentage of your time is spent on the following activities?

1. _____% Planning the program (PMD, PMP, POM, etc)
2. _____% Implementing the program (contract, schedule, SOWs, program reviews, etc)
3. _____% Controlling the program (analysis of cost, schedule, etc.)
4. _____% Fire fighting

50. What percentage of your time in the past 12 months have you spent discussing or meeting with others on SPO planning matters? _____ %

What was the primary nature of this activity?

1. Plan development
2. Plan review
3. Environmental analysis
4. Analysis
5. Other (explain)

51. What is the total cost and time frame for each program phase?

Program Phase	Cost (\$)	Time Frame month/year to month/year	N/A
Concept Exploration	\$	to	
Demonstration/Valid	\$	to	
Full-Scale Developm	\$	to	
Production	\$	to	
Program Management	\$	to	
Responsibility Tran			

52. Complete the chart below with the date (month/year) for each contractual milestone. Check the N/A column if the review is not applicable to your program.

CONTRACTUAL MILESTONES

	Date (month/year)	N/A
Preliminary Design Review		
Critical Design Review		

53. What is the highest level for the program's yearly management review?

1. Selected Acquisition Report (SAR)
2. Program Assessment Review (PAR)
3. Command Assessment Review (CAR)
4. Other (specify)

54. Which category does your program fit?

1. Major program
2. Air Force Designated Acquisition Program
3. Non-major program

55. Complete the chart below with the date (month/year) for each management review. Check the N/A column if the review is not applicable to your program.

MANAGEMENT REVIEWS

Air Force System Acquisition Review Council	Date (month/year)	N/A
AFSARC I		
AFSARC II		
AFSARC III		
Defense System Acquisition Review Council	Date (month/year)	N/A
DSARC I		
DSARC II		
DSARC III		

56. Would you kindly provide a SPO organizational chart, if one is available?

1. Yes 2. No

CONCLUSION

What comments do you have to add?

Your assistance in completing the questionnaire is greatly appreciated by me and my thesis advisor, Major Ron Hitzelberger. I will return to pick-up your completed questionnaire on _____ at _____ hrs. Messages for me can be left at Ext 57212 or I can be reached at home, 237-7700. Major Hitzelberger can be reached at Ext 53355.

APPENDIX C

DOCUMENTATION OF SPO PLANS

Program's Economic Environment

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1	X		X					XX
2		XX						XX
4		XXXX			X			
5		X					X	
6			X		X	X		
7					X			XXX
8	XX							XX
9						X		X
10							X	XXX
11				XX				X
12		X		X				X
13				XX	X			
14				X				X
15				X		X		
16		XX		X				X
17					X			
18				X				XX
19		X		X	X			
20	X			XX				X
21		X				X		
22	X			XX				X
24		XX			X			
27	X	X		X				
28		XX						
30		X				X		X
32								XX
Totals:	6	18	2	15	7	5		24

Planning Factor: 31-16-53

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Changed User Requirements

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X		X		X	X
2		X	X	X				
4				X			XX	X
5						X	X	
6						X	X	X
7								X
8		X				X		XX
9	X		X					
10	XXX							X
11						X	X	
12							X	XX
13					XX		X	
14					X			
15	X				XX		X	
16	X	X					X	X
17		X						
18								XXX
19					X		X	X
20							XX	X
21				X	X			
22	X				X	X		X
24		X		X				X
27		XX						XX
28		XX			X			
29								X
30		X						XX
32		X						X
Other			X		XX		X	XXX
Totals:	7	11	4	4	12	5	14	26

Planning Factor: 31-20-49

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Program's Political Environment

SPO #	Document (See Key Below)							None
	1	2	3	4	5	6	Other	
1								XXXX
2		X			X			X
4		X			X			XX
5					X			X
6								XXX
7								X
8	XX							XX
9							X	X
10								XXXX
11								XXX
12								XXX
13					XX			X
14					XX			
15								XXXX
16								XXXX
17								X
18								XXX
19					X			XX
20							X	XX
21								XX
22				X				X
24								XXX
27								XXX
28		X			X			
29								X
30								XXX
32								XX
Other		XX						XXXXXX
Totals:	2	5	-	1	9	-		2 63

Planning Factor: 79-11-10

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Files

Changed Threat Environment

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1					X			XXX
2	X	X						X
4							XXX	
5							X	X
6	X				X			X
7								X
8	XX							XX
9	X		X					
10	X							XXX
11		X						XX
12							XXX	
13					X		XX	
14								X
15	X					X	X	X
16		X			X		X	X
17							X	
18								XXX
19	X						XX	
20	X	X					X	
21					X			X
22	X							XXX
24	X	XX						
27	XX							X
28	X				X			
29			X	X				
30								XXX
32			X					X
Other	X		X		XX		XX	XX
Totals:	15	6	4	1	8	1	18	31

Planning Factor: 33-11-56

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Strengths And Weaknesses of Functional Offices

SPO #	Document (See Key Below)							None
	1	2	3	4	5	6	Other	
1	X							XXX
2		X		X	X			
4					X			XXX
5					X			X
6						X		XX
7								X
8	X							XXX
9								XX
10								XXXX
11								XXX
12					X			XX
13		XX						X
14		X						X
15		XX						XX
16								XXXX
17								X
18		X						XX
19		XX						X
20	X			X				X
21		X						X
22								XXXX
24								XXX
27		X					X	
28		XX						
30				X				XX
32								XX
Other		XXX						XXXXX
TOTALS:	3	16	-	4	1	1		1 54

Planning Factor: 66-6-28

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Files

Primary Influence Over SPO Objectives

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X			X	XX	
2							XXX	
4			X				XXX	
5							XX	
6							XXX	
7							X	
8	X						XXX	
9							XX	
10							XXXX	
11							XX	X
12							XXX	
13					X		XX	
14							X	X
15						X	XXX	
16							XXX	X
17							X	
18	X						XXX	
19							XXX	
20	X		X				XX	
21							XX	
22							XXX	X
24							XXX	
27					X		XXX	
28							XX	
29								X
30						X	XX	
32							XX	
Other							XXXXXXXX	
Totals:	3	-	3	-	2	3	70	5

Planning Factor: 6-6-88

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files
 Other - Primarily PMD and AFSC FORM 56

Expanding PMP

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1	XX		XX					
2		X						XX
4			X	X	X		X	
5					X		X	
6						XXX		
7			X					
8	X							XXX
9	X					X		
10								XXX
11						X		XX
12						X	XX	
13					XX			
14				X				X
15				X	X	X	X	
16					X			XXX
17						X		
18		X						X
19		X	X					
20								
21			X					
22	XX						X	X
24	X						X	
27							XX	X
28					X			X
30	X							XX
32								X
Other					XX		X	XXXXX
Totals:	8	3	6	3	9	8	10	26

Planning Factor: 36-23-41

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Immediate Agreement By Functional Chiefs On SPO Objectives

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X					XXX
2	X					X	X	
4	X					X	XX	
5						X		X
6		X						XX
7		X						
8	XXX							X
9								XX
10	X							XXX
11	X							XX
12		X					X	X
13						X	X	X
14								XX
15			X		X	X		X
16					XX		X	X
17	X							
18	X							XX
19	XX							X
20	XX							X
21								X
22	X			X				XX
24	X						X	X
27		X						XX
28	X				X			
29							X	
30								XXX
32								XX
Other	XX					X	X	XXXX
Totals:	18	4	2	1	4	6		9 39

Planning Factor: 47-12-41

Document Key: 1 - Program Management Plan
2 - Program Reviews
3 - Acquisition Plan/Contractual Documents
4 - Financial Documents
5 - Briefings/Messages/Correspondence
6 - Office Instructions/Files

Consideration Of Program Office Objectives

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1	X		X					XX
2	XX							XX
4	X	X	X				X	
5							X	X
6	X							X
7								X
8	XX						X	X
9								XX
10								XXX
11								XX
12								XXX
13	XX				X			
14		X						X
15		X			X			XX
16	X						X	XX
17		X						
18	X							XX
19	X				X			X
20	XX							
21					X			
22	X							XXX
24								XX
27		X			X			X
28					X			X
29					X			
30				X				XX
32							X	X
Other	XXX						XX	XX
Totals:	18	5	2	1	7	-	7	38

Planning Factor: 49-9-42

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Allocation of Program Office Funds

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1							X	XXX
2	X			X		X		
4		X		X			X	
5				X	X			
6						XX	X	
7				X				
8	X			XX				X
9				XX				
10	X			X				XX
11				X		X	X	
12				XXX				
13				XXX				
14				X			X	
15		X		XX		X		
16		X			X			X
17		X						
18								XXX
19				XX				
20				XXX				
21				XX	X			
22				XX				XX
24		X		X			X	
27	X	X		X				
28		XX			X			
29				X				
30	X			X			X	
32				XX				
Other		XX	X	XX	X			X
Totals:	5	10	1	36	5	5	7	14

Planning Factor: 17-12-71

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Allocation of Manpower

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1						XX		XX
2		X			X			
4	X					XX		X
5					X			X
6						X		X
7								X
8	XX					X		X
9				X				X
10	X							XXX
11						XX	XX	
12						XXX		
13		XX						XX
14								X
15	X	XX						X
16		X				X		X
17								
18					X			XX
19	X			X				X
20	X			X				X
21				X				X
22				XX			X	X
24				XX				X
27				X				XX
28		XX			X			
29						X		
30				X				XX
32						X		X
Other	X	XX		X	X			X
Totals:	8	10	-	10	5	14	3	29

Planning Factor: 37-24-39

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Changed Organizational Structure

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1						XX		XX
2	X	X						X
4						XXX		X
5					X			X
6	X				X			
7								X
8	X				X			XX
9						X		X
10								XXX
11	X					X		
12					X	X		X
13								XXX
14								XX
15								XXX
16	X					XX		X
17					X			
18							X	XX
19					X	X	X	
20							X	XX
21					X	X		
22								XXXX
24				X				XX
27	X							XX
28					X			X
29			X	X				
30				X		X		X
32								XX
Other	XX					XX		XXXX
Totals:	8	1	1	3	8	15	3	42

Planning Factor: 54-29-17

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Alternative Courses Of Action

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X		X			XX
2	X					X		X
4			X	X	X		X	
5							X	X
6			X					XX
7							X	
8	X							XXX
9							X	X
10								XXXX
11		X						XX
12		X			X			X
13	X				X		X	
14		X			X			
15	X				X		X	X
16							XX	X
17							X	
18								XXX
19					X		X	X
20	X						XX	X
21				X	X			
22			XX					XX
24	X			X			X	
27		X	X					X
28					XX			
29							X	
30	X							XX
32							X	X
Other	X		X		XX			XX
Totals:	8	4	7	3	12	1	15	32

Planning Factor: 39-16-45

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Testing/Analysis Of Planning Assumptions

SPO #	Document (See Key Below)							None
	1	2	3	4	5	6	Other	
1			X					XXX
2	X	X						X
4	XX							XX
5						XX		
6								XXX
7								X
8	X							XXX
9	X							X
10	X							XXX
11								XXX
12							X	XX
13					X		X	X
14					XX			
15							X	XXX
16								XXXX
17								X
18		X						XX
19						X		X
20					X			XX
21					X			
22								XXXX
24	X						X	
27	X	X			X			X
28		XX						
30		X						XX
32							X	X
Other		XX						XXXXX
Totals:	8	8	1	-	6	3		5 49

Planning Factor: 61-11-28

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Files

Pretest Plans

SPO #	Document (See Key Below)							None
	1	2	3	4	5	6	Other	
1								XXXX
2		X					XX	
4								XXX
5							X	X
6								XX
7								X
8	X							XXX
9						X		X
10	X							XX
11								XXX
12						X	X	X
13	X							
14								XX
15		X	X					XX
16					X			X
17								X
18								XXX
19								XX
20								XX
21							X	
22					X			XXX
24								XX
27		X						XX
28								XX
30								XX
32								XX
Other					X		X	XXXXX
Totals:	3	3	1	-	3	2		6 52

Planning Factor: 74-7-19

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Office Where Most Planning Is Done

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1	XX		XX					
2						XX	X	
4	X		X				X	
5	X		X					
6						X		X
7								X
8	X						X	X
9							X	X
10	XX							XX
11						XX	X	
12						X	XX	
13			XX					X
14					X			X
15			X			X	X	
16							XXX	
17	X							
18								XXX
19	XXX							
20	XX							
21	X				X			
22	X		XX					X
24	X						X	X
27	X						X	X
28								XX
30	X							XX
32							X	X
Other	XXXX		X				X	XX
Totals:	22	-	10	-	2	7	15	21

Planning Factor: 27-12-61

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Control And Coordination Procedures

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1	X				XX			X
2	X					XX		
4	X						X	XX
5		X						X
6	X					X		
7								X
8	XX							XX
9	XX							
10	XX							XX
11	X					XX		
12						XX	X	
13						X		
14	X							X
15		X						XX
16	X					XX		X
17	X							
18						X		XX
19	X							X
20	X							X
21	X	X						
22	X			X			X	X
24					X	X		
27	X					X		X
28		X			X			
30	X					X		X
32					X			X
Other	XXXX		X			XX		X
Totals:	24	4	1	1	5	16	3	22

Planning Factor: 29-28-43

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Immediate Acceptance Of Plans By Functional Chiefs

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			XX			X		X
2		X				XX		
4				X			X	XX
5						X	X	
6						XX		
7								X
8	XX					XX		
9								XX
10	XX							XX
11						XX		X
12					X	X	X	
13						XX		X
14					X			X
15					X	XX		XX
16						XXX		
17	X							
18					X	X		X
19	X					XX		
20	X							XX
21								X
22	XX		X				X	
24	X					X		
27	X				X			X
28					X			X
29							X	
30						X		XX
32								X
Other	X				X	XXXX	X	X
Totals:	12	1	3	1	7	27	6	23

Planning Factor: 29-42-29

Document Key: 1 - Program Management Plan
2 - Program Reviews
3 - Acquisition Plan/Contractual Documents
4 - Financial Documents
5 - Briefings/Messages/Correspondence
6 - Office Instructions/Files

Feedback Procedure

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X		X			XX
2						X		XX
4						X		XX
5					X			X
6			X					XX
7								X
8	X							XXX
9								XX
10								XXXX
11							X	XX
12					X	X	X	
13		XX				X	X	
14								XX
15		X				X		XX
16						XX		XX
17	X							
18					X			XX
19								XXX
20	X					X		X
21								X
22	X							XX
24	X	X						X
27	X							XX
28					XX			
30						X		XX
32								XX
Other	X					XX	X	XXXXX
Totals:	7	4	2		6	11		48

Planning Factor: 58-21-21

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

Future Changes In Long Range Planning Approach

SPO #	Document (See Key Below)							
	1	2	3	4	5	6	Other	None
1			X			X		XX
2							X	XX
4								XXX
5								XX
6								XXX
7								X
8								XXXX
9								XX
10								XXXX
11								XX
12								XX
13								XXX
14								XX
15					X	X		XX
16								XXXX
17								X
18							X	XX
19								XXX
20								XX
21								XX
22								XXXX
24								XXX
27	X							XX
28								XX
29								X
30								XXX
32								XX
Other						X	X	XXXXXX
Totals:	1	-	1	-	1	3		3

Planning Factor: 89-5-6

Document Key: 1 - Program Management Plan
 2 - Program Reviews
 3 - Acquisition Plan/Contractual Documents
 4 - Financial Documents
 5 - Briefings/Messages/Correspondence
 6 - Office Instructions/Files

APPENDIX D

COMMENTS ON QUESTIONNAIRE

Comments contained in this appendix were copied directly from the questionnaires. They are listed by program office and, in turn, by functional office. Comments were not solicited for individual questions, but some respondents did chose to make remarks in the margins of the questionnaire and they were included here. At the end of the questionnaire general comments were solicited from the respondents and these comments were included in this appendix.

System Program Office #1

Logistics. Comments: This program has been in production for the past 7 years. Most of the logistics planning was completed during FSD and the initial production contract.

Program Control. Comments: This is a basket program element with more than 30 active programs. This program is only a small part that I support. We do not get as involved in the programs to give them the support which is typical for a normal program. Because production of this system is paid out of aircraft SPO funds, we are less involved than with other of our programs

System Program Office #2

Program Manager. Q4: Either 1 or 2, depends on who has primary responsibility for the particular plan. Q13:

Before courses of action agreed to, frequently; after courses of action agreed to, rarely. Q15: Manpower level assigned by higher level authority; functional levels assigned by chiefs. Q18: We meet the PMD required characteristics. Q23: As required when plan first written and at each update. Q49: This is dependent on program phase; We are 12 years into a FSD contract, therefore, primary planning has been accomplished.

System Program Office #4

Program Manager. Comments: We're developing an extensive in-house simulation tool for system analysis to support long-term planning. We haven't got it yet. To date, we have two we're attempting to initiate. That's why we've not gotten any formal plans. Most of our effort has been in concept exploration.

Logistics. Q1: Not yet in the conceptual phase, therefore, no significant acquisition logistics yet. Q10: As required, but certainly not very frequently. Q16: All, for different aspects. Essentially, there exists a hierarchy of objectives and sub-objectives. Q18: Any of the above, equally. Q22: How does one do that? Probably only through the program review process. Comments: Questions 5-26 needed an "As required" choice.

System Program Office #7

Program Manager. Q27: Lack of familiarity with the PMP and source selection plan is due to stage of program.

System Program Office #8

Program Manager. Comments: In today's environment, it is very difficult to realistically attempt anything more than short-range planning. Consider:

- Changes in Congressional direction.
- Changes in DOD direction.
- Changes in AFSC/CC direction - Each commander has new set of initiatives and policy.
- Changes in ASD/CC direction.
- Changes in SPDs - 4 in 3 years.
- Changes in SPO personnel - As soon as a person gets up to speed in SPO management of functional areas, they get re-assigned.
- Lack of realistic alternatives - Directive prescribe almost everything. Even SPD has little room for management initiatives.
- Extremely conservative, cautious philosophy with extremely heavy layers of paperwork.
- More concern with inspections than with success of programs.

System Program Office #9

Program Control. Comments: Questionnaire would have been better served if the questions had been tailored to my functional area.

System Program Office #10

Logistics. Q15: This SPO is too small for detailed manpower allocations - each function is only 1 to 3 individuals.

Program Control. Some of the planning task can not be put on a time line (ie, daily, weekly, etc). I personally have been on the program for a little over two months and have seen the affect of some poor planning in the budget side of the house. From my own view point we can try to do long range planning, but without a multi-year program real long term planning can't be totally accomplished.

System Program Office #11

Program Management. Comments: My definition of long range planning in this exercise was approximately 1 year into the future. This is based on my functional area of "projects." We have a separate division, "Business and Plans," that deal with our higher headquarters directed plans.

Engineering. Q17: There are no central meeting or inputs requested relative to SPO objectives. Q18: Have not expanded beyond PMD. Comments: As program chief engineer subsequent to critical design review, my effort has largely focused on (1) resolving issues from review, (2) determining configuration from among design alternatives, (3) evaluating and scoping ground and flight tests to address results from above, (4) providing technical support to other directorates, and (5) evolving work around solutions to political problems. Most of above tasks inherently involve some type of planning, but not the formal type that is documented in normal, formalized plans such as critical data requirements lists items (ie, PMP, SEMP, etc).

Logistics. Q29: Despite the problems noted and despite year to year funding changes, the program has experienced long range stability due primarily to adequately defined objectives. Short range planning has been more of a problem. Comments: The objectives of this program are relatively simple--to replace an existing aircraft in a life

cycle cost effective manner without significantly pushing the state-of-the-art. The planned buy, the replacement period, the number of bases, and Congressional and DOD support for funding have all been relatively stable. The mission is essentially immune to changes in threat. These factors make long range planning relatively simple and allow the SPO to concentrate more on program implementation. Some technical problems exist, but these are relatively minor when compared to high performance airplanes or missile programs. My experience in other SPOs indicates that funding instability is the greatest detriment to effective long range planning. And when funding cuts are suffered, insufficient time, as opposed to inexperienced planners, is the greatest detriment to good planning. Resistance to change exists, but is far less prevalent in AFSC than in other commands, especially AFLC. In classified programs, long range planning is less effective due to inability to freely discuss alternatives and obtain input into the decision making process.

System Program Office #12

Program Manager. Q2: Only amounts to about 2-3 man-years per year. Q6: Something we live with daily--we constantly follow political environment, but don't analyze it. Q7: Not formally, off-sites. Q8: Never, but we do question requirements. Q9: We probably discuss or recommend changes on a weekly basis and we do analysis which

would affect requirements, but we don't analyze possibility of changing user requirements. Q10: Plan to do more often, if we get the time. Q11: Not the structure, but there is a plan for re-allocation of resources and manpower drawdown. Q12: Not a scheduled or periodic event, but a normal part of planning. Q14: A continuous process. Q25: That's our business, correcting problems. Q26: Plan to do more. Q28: Program execution planning--not long range. Q29: Planning is not a problem--"selling" plans is the problem. Q34: Need more manpower; I think resources devoted to POM development in AFSC is a waste. Q49: Add 40% administration.

Logistics. Comments: This system is unique because of its high priority and baselined, cost capped features. This greatly reduces the requirements battles from the users, trainers and supporters during program execution. This, of course, requires careful planning for near term and far term events. Politics (Washington type) always affect programs--directly proportional to size. This further demands plans that both justify program objectives and provide flexibility for changes. One point--documenting plans is only useful to the extent people read them. They can be communicated in many ways.

System Program Office #13

Program Manager. Q17: Discussed at weekly staff meetings and courses of action taken to resolve any problem

areas. Q21: Different aspects of planning are accomplished on a weekly, monthly, and quarterly basis.

Engineer. Q9: Only when the user changes them. Q10: Usually initiated upon new threat information. Q11: At program phase changes. Q16: This answer depends upon which level of influence you're talking about. HQ USAF and HQ AFSC start a program via the PMD and FORM 56 and funding (which really kicks the program off). Once these events fall into place the functional people within the SPO and program office define, scope, and detail the program, who has the greatest influence depends upon your perspective and position in the chain. Q31: Plans have increased workload and corrective action. Q33: Need better quality. Comments: Other than initial program planning for new developments or production, we do little long range planning. Looking at alternative approaches is usually done as a response to a problem which surfaced during the program. These are quick reaction, knee-jerk type activities with very little time to test-out or thoroughly think through our plans.

Program Control. Comments: The miracle that any planning at all takes place on this program is due to the leadership and foresight of the program manager. As a result, we have experienced fewer surprises than other programs I've seen (surprises both internal and external to the SPO).

System Program Office #14

Engineer. Q27: Numerous other technical plans submitted by contractor (at source selection)--used as appropriate; Master Test Plan, Support Equipment Plan, Reliability Program Plan, Environmental Management Plan, Human Engineering Program Plan, etc.

System Program Office #15

Program Manager. Comments: This program is very short of people. Normal planning and program management cannot be exercised until personnel shortages are resolved.

Engineer. Comments: For your thesis--will improved long range planning reduce the time we spend "putting out fires" which I think is most time consuming an many of our acquisition programs one they are underway?

System Program Office #16

Program Manager. Comments: With regard to planning, we have too many plans and not enough planning. The formality of a plan and the concern over its form takes precedence over real hard consideration of what the program implementation will be. We also have way too much reporting and not enough analysis of results (report for the sake of a periodic report instead of reporting when there is a significant analysis, result, change, problem, request, or question to raise). A planning checklist (with clarifying text) would be a useful tool if not made an additional product requirement.

Logistics. Q19: I'm probably bias--test planning is also very detailed. PMP is very general top level plan. SEMP is developed by contractor for government approval. Engineering has their objectives but distributes no plan. Q26: Have some ideas in mind for possible changes but no time to spend exploring feasibility or developing them. My ILSP has been in draft revision since December and I've not had time to finalize and start review process. Q35: I don't directly serve as supervisor or reporting official but as the senior member of the logistics support I have responsibility by title to ensure work of other supporting logistics personnel is complete, coordinated and timely. Comments: To my knowledge the only detailed analysis of a plan conducted in the last 12 months on the program I support was the schedule of tasks and duration of tasks leading to release of the RFP and source selection for the next phase. It was thorough and when briefed to 3-letter management presented alternatives evaluated and recommended schedule. Was approved as achievable but ambitious. Four months later we're still on schedule. We have a very organized, structured program review process supported with detailed OIs with procedures outlined. The weaknesses are in (1) receipt of PMDs with program start date, plans due dates and other requirements that must be met and do not take into account manning up for the requirements or planning time, (2) inexperienced program manager and

functional support personnel, (3) Matrixed support--age old problem or responsibility without authority, (4) insufficient number of personnel in all areas, and (5) competition has been adopted as "best way for AF and DOD to go." Downselect at production phase or dual source the production run. Has its positive impacts but like other mandated from "on high" initiatives/programs not plan (foresight) into impact on personnel resources this competition has (1) multi-contracts to monitor, (2) many meetings with contractor, and (3) procedures to handle contracts, meetings, information, etc. to ensure fairness and safe guard competition sensitive information.

System Program Office #17

Program Manager. Comments: Your frequency choices should have included "in response to external influences" since several types of planning are so triggered.

System Program Office #18

Logistics: Comments: This program was for limited AF participation with the foreign military sales. We are just now increasing our efforts toward a USAF buy. When that PMD is received then we will be able to do serious advanced planning.

System Program Office #19

Program Manager. Comments: Documenting planning is one thing, following it is another. Functional of SPD. Continually changing. Need consistency in budget to have

good plan. Following plan needs measurement and constant emphasis. PAR/CAR should emphasize planned vs. actual.

System Program Office #20

Engineer. Q37: At ASD "dedicated" means working in home office but providing nearly full-time support.

"Colocated" means working exclusively in and for a SPO.

Logistics. Q3: We are directly involved in preparing logistics plans, but also heavily (and perhaps most importantly) in inputs and reviews of plans from other functional areas. Q4: Varies greatly according to actual planning activity being addressed. Q5: Certainly accomplished in preparing annual POM inputs. Q6: Usually triggered by concerns/issues from higher levels--most analysis very subjective, based upon personalities. Q7: This should probably be asked of top level management or rephrased to look at effectiveness within individual functional department. Q8: Usually triggered by concerns/issues raised outside the SPO. Q9: For more mature "baselined" programs, this question has implications differing from pre-FSD programs where tradeoff analysis on requirements are a way of life. Q11: Usually informally look at organizational structure and consider reorganization only when issues related to structure are surfaced. SPO basic structure is fairly rigid--responsibility within given structure more likely to change. Q12: This is a continual informal activity, not a scheduled formal activity as

indicated here. Q13: All of pre-FSD is focused on activities of this type, so this question may be misleading. Often, but not on a rigid schedule. Only reasonable, controversial alternatives formally documented--then usually in memos, briefings, etc. Briefing to the General Officer Steering Group are example. Q14: Pre-FSD programs tend to budget parametrically--more detailed allocations depend on more detailed program specification, etc. not usually possible until FSD or later. Q15: Misleading for matrix driven organizations where manpower belongs to other groups and cannot be freely transferred between functional groups within the SPO. Q16: Misleading since all these groups participate. HQ ASD chosen because of frequency of oversight. HQ USAF may be better answer if ultimate arbitrator of conflicts is implied. Q17: Immediate is questionable here. Disputes are ultimately resolved and agreement documented in PMP. Q18: Can't answer. PMD describes capabilities beyond what is probably feasible. SPO trying to balance this in determining what must be cut. Q19: Can't answer. Detailed planning done in most areas with overall plans coordinated. Engineering may have most volume due to planning at this phase, but all are crucial, as is planning interface between functional areas. Q22: Can't answer. All important plans subjected to extensive reviews and analyses at Deputy, ASD, AFSC, HQ USAF levels. If this constitutes a "test" then tests performed at all

planning submissions and updates. Q24: But such plans are interactively and iteratively defined to get such acceptance. Not unilaterally imposed from within the SPO. Q29: Can't answer. Our program not old enough to have "tested" plans to the extent implied. Q49: This will change as program gets on contract. Q50: Hard to answer. If all the activities indicated are not involved, everyone is wasting time. Comments: Many questions could not be answered because questions seemed to imply a situation not present for our program. Questionnaire hints at a "checklist" approach to long range planning that neglects or disapproves of the informal/subjective planning and control process I have found to characterize this program. Value added by experienced functional chiefs, who "raise flags" when issues are encountered and allow SPO management by exception to work seems neglected and cannot be reported in this questionnaire format. Questionnaire not suited for our program where much of the long range planning is done in home offices of matrixed support personnel and coordinated at the product division level. SPO then are "action officers" in generating plans, but "testing" and analysis is usually at higher levels and excluded from report in this format. Basic (not directly asked) question seemed to be whether a more formalized long range planning function from within the SPO could be beneficial. I would judge this to be marginal given the implied reporting requirements and

effectiveness (especially in the political sense) of the current process coupled with extensive external review.

System Program Office #24

Logistics. Q12: Overall objectives should always be considered when plans are developed. The idea of plans is to obtain those objectives. Q18: The PMD does not deal with system capabilities, it deals with program management. Q22: Except if you consider brainstorming and reviews at a pretest as well as using proven methods from other programs. Comments: The extent and depth of planning is extremely dependent on program phase. Since this program is in a Systems Definition phase, we have spent a great deal of time planning for FSD and production. That planning function should diminish later in the program. By limiting yourself to time/frequency responses you have perhaps lost the true essence of SPO planning. There is a great deal of informal discussion and analysis on daily basis. There is no documentation for this (nor could there be), but it is extremely critical to effective management in a SPO or anywhere else. The program manager's capabilities to assimilate the information he receives is dependent on his personality, acquisition process understanding, and state of mind (open or closed). A functional manager's prime responsibility is to insure that the PM is informed.

System Program Office #27

Program Manager. Comments: This program was started by another AFLC and transitioned to AFSC on very short notice. It is a Class IVB mission essential reliability and maintainability modification. Our direction was to execute what had been planned. No changes were authorized. Production quantities and delivery schedules are determined by an Air Logistics Center (ALC). Production funding is budgeted for and provided by the ALC. Development funding is fixed. In short, I do very little planning because I have almost no control over the program and can only react to changes made by the ALC.

System Program Office #28

Program Manger. Comments: We have numerous publications, directives, etc. Please do not add another to this long list unless you replace two of the same.

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VITA

Captain Lori A. Corey was born on 2 July 1958 in Tiffin, Ohio. She graduated from high school in Slidell, Louisiana, in 1976 and attended Louisiana State University from which she received the degree of Bachelor of Science in Biochemistry in May 1981. Upon graduation, she received a commission in the USAF through the ROTC program. In November of 1981 she reported to Wright-Patterson AFB to work for the Deputy for Engineering, Aeronautical Systems Division. She managed an investigation of Allied chemical defense equipment until moving to the Deputy for F-16 in the summer of 1983. At the F-16 system program office she managed survivability programs, focusing primarily on survivability in the chemical warfare environment. Captain Corey reported to the School of Systems and Logistics, Air Force Institute of Technology, in June 1984.

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This investigation focused on the strategic (or long range) planning approach of system program office (SPO) personnel at Aeronautical Systems Division (ASD), Air Force Systems Command (AFSC). The research was accomplished through questionnaires and interviews. The sample population included managers, engineers, logisticians and program controllers holding the leadership positions for 27 different programs.

The research indicated that separate, distinguishable groups solely responsible for strategic planning were the exception and not the rule. The understanding of where strategic planning was accomplished for the programs varied from person to person.

Specific portions of the planning process were investigated. A formal approach was followed for the economic analysis, the definition of objectives and the allocation of funds. An informal approach was followed for the requirements analysis, political analysis, threat analysis, organizational analysis, consideration of objectives prior to plan development, allocation of manpower, organizational structure, alternative courses of action, testing of planning assumptions, and testing of plans. Additionally, the research indicated that few of the plans required by regulations received wide application.

More efficient resource allocation and better quality decision-making were the most common benefits of planning. The top ranked difficulties associated with strategic planning were insufficient time, unpredictable political environment, inadequately defined objective and inexperienced managers.

The research data indicated that strategic planning has been useful to the program office. The sample population recommended increased attention on strategic planning.

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